Lectures
ON SOME
RECENT INVESTIGATIONS
INTO THE
PATHOLOGY OF INFECTIVE AND CONTAGIOUS DISEASES.

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LECTURE III.—PART II.

IT will be convenient here to advert to the facts in favour of the view that the anthrax bacillus is the cause of the disease (in the ordinary sense of the word), and not a mere concomitant. These facts have not all an equal value, and are not absolute proof, but so far as they go they are strongly in favour of this view. They may be summarised as follows :—

1. The constant presence during the disease of bacilli in the blood and organs in all classes of animals. Sometimes the number of bacilli is enormous, at others small; but even in these latter cases if the fluids are used for inoculation of certain of the lower animals, the disease is sure to be attended by their development in great number. I am aware that this constant presence of bacilli has been denied by some, especially by Hiller; but I am not aware of any facts in support of Hiller's view, and it is contrary to the almost universal experience of others. Moreover, Hiller's observations refer only to the blood.

2. When blood or any animal fluid containing these bacilli or their spores, and not altered by decomposition, is inoculated, it produces the disease together with the presence of bacilli; whereas, if the fluid inoculated does not contain any bacilli or spores, it is inert. The very few assertions to the contrary do not bear the test of critical examination. My own experiments have convinced me of the accuracy of the statement here made.

3. It has been commonly asserted that, when cultivated generation after generation in indifferent media, these bacilli still retain their power of causing the disease when inoculated in susceptible animals. This I was prepared to affirm until experiment had convinced me that it was not universally true. It may be true of some cultivating media, but is not so in those I have tried. Yet the results of cultivation are such as are scarcely to be explained on the hypothesis of diluted contagium, seeing that the seventh generation may certainly produce the disease.

Another set of arguments are derived from the comparison of the effect of agents which destroy the vitality of the fungus with the causes known to prevent the disease. Any conditions, whether compression or heat, putrefaction or antiseptics, which destroy the vitality of the fungus, destroy equally the power in the fluid of producing the disease. Decomposition has an especial effect, for as it proceeds the rapidity and certainty of the effects are proportionally diminished. If, for example, two animals are inoculated with the same quantity of the same material during hot weather, the one immediately after death, the other after exposure of the material to the air for a few hours, the production of fatal symptoms is in the latter very markedly delayed. Moreover, the persistence of the contagious property for a lengthened period is coincident with, and apparently dependent upon, the formation and persistence of the bacillus spore in a condition suitable for germination.

The arguments against this view have been fully stated by Dr. Timothy Lewis,[1] and as his work not only carries weight from the position of its author, but is likely to have a wide circulation, it is desirable that I should refer in some detail to his views, and inquire how far they afford any ground against this view. In considering the evidence which has been adduced, showing that the virulence of septinous substance is not dependent on vegetable life, Dr. Lewis says :—"The question which naturally suggests itself is, whether sufficient evidence exists to show that inoculations can be effected with like material in the absence of such living organisms. The reply to this question, so far as anthracoid and cognate diseases are concerned, is distinctly in the affirmative. ..... When Brauell published his paper in Virchow's *Archiv* in 1858, detailing his experiments to prove that splenic fever was an inoculable disease, he further stated the opinion that the organisms found in the blood could not be the carriers of the virus, seeing that blood not containing bacilli had been found to generate the disease. Bouley has arrived at a similar conclusion, and Böllinger, who has repeated Brauell and Bouley's experiments, has also shown that the disease may exist without the presence of bacilli in the blood, that such blood will induce the disease in other animals, and that even under such circumstances organisms may develop in the blood of the inoculated animal, and be detected during life as well as after death."

Now, let me place side by side with this Böllinger's own statement[2] as to these very experiments. He says: "Brauell produced anthrax in two fowls by inoculation with blood, which did not contain any *rod*-like bodies, while the blood of the inoculated animal showed them. From this he drew the deduction that these structures were neither the contagious material of the disease nor the necessary carriers of the same. Bouley failed to produce anthrax by inoculating with the blood of infected animals which contained no bacteria." He goes on to say: "It is easy to conceive that bacteria in the blood and organs of diseased animals may be easily overlooked on account of their smallness," and so on. "This I have proved experimentally and with the microscope, showing that in infectious blood of this kind, without bacteria, the germs of the latter are already present in the form of spherical bacteria. Indeed, I succeeded by the inoculation of diseased blood containing bacteria in producing true anthrax, in which the blood of the diseased animals contained no bacteria, although there were bacterial germs which after death developed outside of the body into characteristic cylindrical bacteria." And in further remarks on subsequent experiments by Brauell and others he clearly shows that in speaking of the absence of bacteria he is merely referring to the *rod-shaped* ones, allowing that the spherical spores or germs are present. I need only quote one more sentence to show how thoroughly Böllinger accepts the view that bacteria are the cause of the disease. "The tenacity of the anthrax poison—bacteria—is exceedingly great. In the dried state bacteria are able to preserve their virulence during months, and even many years."

Bouley also is now one of the most emphatic in the assertion that bacteridia are the cause of anthrax. In a recent paper he says, "Il faut accepter aujourd'hui comme une vérité absolument démontrée que le charbon procède de la bactéridie et de la bactéridie exclusivement, puisque les expériences de laboratoire les plus rigoureuses démontrent que sans elle ou sans spores, les inoculations de matières de provenance d'animaux charbonneuses demeurent toujours stériles, tandis quelles manifestent, au contraire, leur activité, quand les bactéridies leur sont associées. D'où cette conclusion nécessaire qu'il n'y a pas de charbon possible sans bactéridies et que conséquemment, quand le charbon se manifeste quelque part, c'est que la bactéridie s'y trouve."[3]

Dr. Lewis also cites against the specificity of anthrax bacillus the fact that bacilli in some respects similar may occur in the blood of healthy rats a short time after death in India, where of course the temperature is especially favourable to their development. He mentions that in the blood of rats, killed by means of chloroform or asphyxiated, he found a few hours after death short rods, which were in some cases joined end to end, and which by cultivation lengthened into longer rods, and spore formation occurred in them. He describes the various phases which he observed, and concludes that these bacilli are identical with those observed in anthrax. I need not weary you with a detailed description of the observations which he adduces with the object of proving this. The facts I do not for a moment dispute; they are easy to observe for oneself; and I have often studied and watched similar changes occurring in decomposing

[1] On the Microscopic Organisms found in the Blood of Man and Animals, and their Relation to Disease. Calcutta. 1879.

[2] Loc. cit., p. 385.

[3] Recueil de Méd. Vétérinaire, Nov. 15, 1879. Paris: Asselin.

blood. But I think that no one who has studied cultivations of anthrax could mistake the bacilli which he figures for those cultivated from anthrax. Moreover, the whole of the arguments are pervaded by the obvious fallacy that because they are bacilli—that is, members of a genus—they are of the same species because they are found in the same fluid. That they are bacilli few could doubt; that they are anthrax bacilli, is quite another question. Anthrax bacilli do not, like these, grow in decomposing blood; moreover, these bacilli of putrefying blood, or the blood containing them, are almost entirely devoid of toxic properties, so far as my observations go; nor has Dr. Lewis given any evidence to the contrary. I may say the same with regard to the bacilli found in urine.

Whatever value these observations may have, they cannot for a moment outweigh the results of experiments verified by a number of independent observers who have found that material from animals dying of anthrax which contains either rods or spores reproduce the disease with the utmost certainty, whilst that which does not contain either is innocuous. On the other hand, these bacilli not derived from anthrax, however closely allied to, or even apparently identical with, the anthrax bacillus, do not when inoculated produce the disease, and in most cases are entirely innocuous.

And let me add that in order to control the results of observations on the organisms found in the blood and tissues in these diseases I have, from time to time, kept the bodies of animals which have either died a natural death or have been killed in various ways at different temperatures, and watched the organisms which developed in them.

ORIGIN AND SPREAD OF ANTHRAX.

Very naturally a large number of hypotheses have been suggested to account for the origin of the disease, or to explain its spread. Viewing it in the light of the better-known infectious diseases which affect man, we may well doubt whether it is not always carried by unsuspected ways of contagion. We cannot trace the source of every case or follow the spread of an epidemic of measles or scarlet fever; but from what we do know we feel little hesitation in affirming that the contagium has been carried from an antecedent case when we meet with an outbreak of the disease, however isolated or inexplicable that outbreak may be. In like manner, with splenic fever we are bound to exhaust all the known modes of contagion before we can be justified in believing that it is due to local conditions or processes.

Of the many ways in which contagium may be conveyed, few are so ready as that by way of food—for example, corn, hay, &c., which are so widely distributed, and can be followed only with so much difficulty. Some few facts which have come to light support the view that the disease may be thus conveyed. Experiment has shown that the ingestion of infected material may be speedily fatal, and that this is especially so when the food contains any hard or sharp particles which can cause abrasions of the mucous membrane. Now, seeing that the anthrax bacillus can be very readily cultivated in hay infusion or in malt, we see one way in which possibly contagion might be widely distributed. But the direct evidence in favour of this mode of transmission is as yet very inconclusive.

Let me now pass to the other modes of communication of the contagium. One very important question is the duration of the infection in the carcases of animals which have died of the disease. It is extremely difficult to understand how it comes to pass that at certain periods animals become affected in certain localities, not only without any obvious source of contagion, but often in such isolated spots and under such conditions as seem almost to negative any possibility of direct contagion.[4] But since it is well known that all parts of the carcases of animals which have died from the disease are highly contagious, it is natural that the idea should have arisen that by some means the bodies of animals which have been buried in fields may infect the water, or even the pasturage, and then reproduce it. Hence the strictest regulations are in force in most countries as to the disposal of carcases. In Prussia the carcases must be buried two metres deep[5]; they may not be buried in swampy places, or near running water or springs, nor in the neighbourhood of dwellings; moreover, the spot must be paved or covered with stone, in order to prevent vegetation, and to keep cattle from grazing upon it. In other countries the place must be fenced in for three years, and various devices adopted for preventing any possible spread of the contagium.

I have already mentioned certain facts which point to the belief that some forms of anthrax are especially liable to occur in marshy situations, and at certain seasons of the year, when the marsh lands begin to become dried by the increasing power of the sun. All experience in fact seems to point to the great influence possessed by certain localities in favouring the occurrence and persistence of the disease. It is found that in some meadows cases occur year after year, and it has been stated that those places where bodies of anthrax victims are interred cases have arisen again and again. With regard to the influence of locality, in an analogous if not identical disease, the Cape horse fever, we have very strong evidence of its marked tendency to arise amongst animals grazing in long grass on swampy ground, especially in spring and early summer. In face of these and other facts, two hypotheses might present themselves—one, that the disease originates in some miasm produced in these localities, so to speak, *de novo*, or developing in such a way under particular conditions as to give rise to the disease; or that the contagium is regenerated under these conditions of heat and moisture, and thus again becomes noxious. I need hardly remind you that if, as is now generally believed, the contagium consists in the bacillus anthracis, the spores of which can remain long dormant, and under favouring conditions start into life and activity, we should have a state of affairs fully concordant with those observed facts of the occurrence of the disease. For we know that these bacilli would find the conditions essential to vitality in moisture, warmth, and the presence of some vegetable pabulum analogous to our cultivating fluids of the laboratory.

But it may be asked, is the pre-existence of contagium revivified under these conditions essential? May it not be that this bacillus can be derived from some other isomorphous bacillus, which acquires specific properties under cultivation in a particular soil or in peculiar conditions. So far as I am aware all the experiments hitherto made with the view of thus producing a contagium by cultivation of other bacilli have failed. The bacillus of hay infusion described by Cohn was naturally looked to as likely to be the organism in question, but several observers have tried, without success, to cultivate it with this object. I do not think, however, that we ought to draw any adverse conclusion from even a very large number of failures in such experiments, for success may be possible, and if it were so a step would have been taken in the solution of the mystery of contagia far exceeding any yet gained.[6]

But to return to the subject of infection from carcases. Given the fact of existing spores, their persistence in the carcase or in the surrounding soil, and revivification under these favouring conditions would appear highly probable as a fresh source of disease.

Some experiments recently made by Professor Feser[7] of the Munich Veterinary School have a very important bearing on this question of the duration of infection from the bodies of animals dying of splenic fever. The experiments were made especially with the view of deciding whether burial of the carcase was a sufficient precaution against the spread of the disease, or whether, as has been supposed, infection might spring up from the body after some time has elapsed. It had been suggested by Koch and others that the spores of the bacillus might be dormant and impregnate the earth around the carcase; that, when this was in a marshy or wet ground, they would be especially liable to be spread, and become the source of reinfection. And here arose the question, Whether these spores exist in the bacilli at the time of death, or were only developed afterwards? Koch suggested that, if the carcases were buried about thirty feet deep in the ground, the temperature would be too low for the development of spores, implying that the bacilli alone existed in the body at the time of death; but, as I have shown,

[4] Probably some of the cases of this kind which have been reported are cases of quarter-evil, a disease which has been confounded with anthrax, but which I hope to show is different.

[5] With quicklime one metre.

[6] Since delivering this lecture I have, I believe, established the converse proposition—viz., that the anthrax bacillus may be grown in cultivating fluids in successive generations, until it acquires an innocuous condition, though maintaining its power of germination and growth, and all its morphological characters. It may, therefore, be fairly suggested as possible that the anthrax bacillus is only a bacillus which has acquired special properties. But this suggestion is at present purely speculative.

[7] Deutsche Zeitschrift für Thiermedicin.

spores may exist in the body, though not usually in the blood, at the time of death.

In a first series of experiments made in 1875,[8] Feser found that the bodies of animals which had been buried for any length of time became innocuous. In his subsequent experiments he first of all disinterred the carcases of animals which had died of anthrax some time before, and inoculated other animals from them.

In a first set of observations he disinterred two carcases buried nearly a year before, and three others buried from four to nine days respectively, and after a very careful microscopic examination of the different parts, he inoculated other animals from them. In some cases the activity of the poison directly after death had been shown by inoculation of other animals from them, but, notwithstanding this, the experiments all proved absolutely ineffectual. It is noteworthy that Feser found in some of these carcases some bacilli which precisely resembled in their shape the bacillus anthracis.

The second series of experiments were of even more interest, as they were destined to ascertain how long after death the carcase became innocuous, and what were the parts in which the poison lingered longest.

A number of animals having died of anthrax in the Munich Veterinary School as a result of inoculation experiments which were being carried on, fifteen animals were buried in two rows one over the other, so that two could be taken up at a time, the depth being about one yard and a half. Arrangements were made for ascertaining the temperature of the soil, and the condition as to humidity. The nature of the disease and the infective power of the carcase were in every case proved by direct experiment, and in several cases the animals were inoculated in a series one from another. The record of these cases brings out some striking facts as to the variety of modes in which the poison may be introduced. Thus, in these fifteen animals, in two the disease was communicated by inoculation of spleen, which had been frozen, in one some fluid from the spleen was placed in the conjunctival sac,[9] causing death in less than three days, and in one the spleen given as food produced a fatal result in fifty-six hours. Five were inoculated with the blood, either fresh or frozen, and these were much less rapidly fatal, in one case five days elapsing before death. In two cases the flesh was given as food, and rapidly caused death, and in one the flesh was used for inoculation. But the most curious result was one obtained by inoculating a sheep with some urine of another sheep which died of the disease. In the urine a large number of bodies, resembling spores of bacillus, were found. The inoculated sheep lived nine days, and then died with tetanic symptoms. The spleen was found to be greatly enlarged, measuring six inches long and one inch thick, soft and dark, and containing many spores and short characteristic anthrax rods, which, when cultivated, grew into long rods, resembling bacillus anthracis. Feser thought them identical.

One other animal was infected by inhalation[10] of spores derived from the carcase of another animal, and in its carcase were found very large quantities of short anthrax bacilli, some containing spores, and also free spores.

The carcases of these animals were disinterred at periods varying from fourteen days to four months. A very elaborate microscopic examination was made of nearly all the tissues and organs, and inoculations were repeatedly made from them into other animals, but with one exception without the slightest result. The exception was in the case of the sheep buried only fourteen days. In the skin there were found spores which produced "characteristic anthrax organisms" by cultivation, but the inoculation of this material was ineffectual. Some muscle, however, rubbed down with water, was used for inoculating a horse with a fatal result in four days, with well-marked anthrax. In the exceptional instance, however, the temperature had been very low during the time of burial, and this result therefore accords with the general observation that very low temperatures are favourable to the preservation of the contagium.

There can be little doubt that these experiments go far to prove that even when under favourable conditions of warmth and moisture the carcases of animals dying of the disease do not serve as centres for the propagation of anthrax, but become inert as soon as decomposition sets in.

[8] Gerlach's Archiv, Bd. iii., Hefte 5 und 6.

[9] This I believe to be an unusual result, mere application to the conjunctiva rarely producing the disease.

[10] Gerlach's Archiv, Bd. iii., S. 421-422.

Another set of observations seem also to show that, as had already been shown by others, vegetables of various kinds grown over the carcases are perfectly harmless. Nor did inoculation with the soil around the body produce any result. It may therefore be safely assumed that some other mode of origin must be sought.

Notwithstanding the negative results of these experiments, it may yet be an open question whether in certain cases the contagium does not persist in the surrounding soil. The experiments of M. Pasteur just published, though far less extensive than those of Feser, can hardly be entirely set aside.

In these experiments M. Pasteur, with MM. Chamberland[11] and Roux, succeeded in reproducing anthrax by means of earth from the soil and around the carcase of an animal which had died of anthrax some months before, and also, as he states, cultivating anthrax bacillus in earth and infecting other earth from that over the carcase.

He first cultivated in 500 grammes of earth free from germs of bacteridia, 20 drops of anthrax blood, and after thoroughly mixing the earth, he took 2 grammes of it and added it to 300 grammes of fresh earth; then from this he took 5 grammes and mixed it with 100 grammes of fresh earth, also free from bacteridia. From the latter he took five grammes and was able to extract from it "germs of bacteridia," of which he proved the virulence by inoculation of guinea-pigs. The time from the commencement of the experiments to the inoculation were from June to September. These earth cultivations, I may point out, only reached what one may call the second generation of earth cultivation.

The second series of experiments were made by burying the carcase of a sheep which had died of splenic fever, and ten months after (in May, 1879) he took earth from the superficial and deep layers of earth from the place of burial, and by inoculation of guinea-pigs with the superficial layer he produced charbon, whilst those from the deep layers caused septicæmia, which was, he says, of peculiar character.

These experiments prove conclusively, according to M. Pasteur, that the soil may be the means of preservation and cultivation of the germs and spores of bacteria, and that from them after some months the disease may be reproduced. The endemic prevalence of anthrax is thus, in his opinion, fully accounted for, the earth being infected by numerous cases. I must confess that I myself believe that, in spite of the elaborate precautions sometimes enforced to prevent the persistence and spread of the disease, there is sufficient evidence that the careless disposal of portions of the carcase—e.g., of parts of the skin and hair—is very common, and that this affords a sufficient explanation of the persistence and virulence of the disease.

One or two other points in relation to this disease remain to be mentioned, one the possibility of inoculating anthrax without causing a fatal result, and the protection conferred by this attack; the other the relation of the disease as it occurs in the lower animals to human disease.

In some experiments made last year by Dr. Sanderson and Mr. Duguid, but not yet published,[12] they found that when anthrax material, which had been transmitted through rodents, especially the guinea-pig, was inoculated in cows, the symptoms produced were analogous to those of anthrax, and very intense, but that in no case was the disease fatal. This was equally the case, whether the material was derived directly from the guinea-pig, or by means of cultivation in aqueous humour or hay infusion.

This observation seemed to me a very important one, for this reason, that if anthrax is, as is supposed by some, an acute specific fever, such inoculation of a modified contagium might be found to confer protection from subsequent attack. And, collaterally, if it did so confer protection, the marked analogy thus established with acute specific fevers would point to the possibility of the contagium of other acute specifics being of bacterial nature.

I have, therefore, repeated the experiment, as yet only with the inoculation through guinea-pigs, for I have not yet had any opportunity of further investigation with original material. The experiment was as follows. A heifer, previously in good health, having been kept under observation for nearly three weeks to ascertain its normal temperature, was inoculated with a small quantity of anthrax virus, which from some cause was ineffectual. The animal was therefore reinoculated with a larger quantity of material, the second cultivation in hay infusion, containing abundant spores, the

[11] Bull. de l'Acad. de Médecine, Dec. 1879.

[12] They have since been published in the Journal of the Royal Agricultural Society, vol. i., 1880.

activity of which was at the same time tested by inoculation on a mouse. The course of the symptoms is best indicated by the chart which I have placed before you. For the first twenty-four hours no symptoms were observed; there was only very slight swelling at the seat of inoculation. On the morning of the second day—i.e., about forty hours after the inoculation—the rectal temperature was found to be 104°, having previously been 100° to 101° (the normal temperature). The animal was drowsy and stupid, and fed badly, but no rigor was observed, nor any very special symptoms. In the evening of the same day the temperature was lower (102·4°), but on the following day it rose to 106·4° F., and continued to vary between 105° and 107° for three days, during which time the animal was seriously ill, and at times appeared hardly likely to survive. On the eighth day, however, the temperature fell to 104°, and on the ninth to 101°, after which the animal speedily recovered, and continued perfectly well.

I was unable to discover any bacilli in the blood, but I do not attach any importance to this fact in proving that they did not exist. Inoculation with this blood, not containing bacilli, did not produce any symptoms in a rabbit.[13]

It remains to be seen whether this modified attack will confer any future protection on the animal.

ANTHRAX IN RELATION TO HUMAN DISEASE.

We know that in districts where anthrax is prevalent amongst cattle cases of malignant carbuncle appear in the human subject from time to time, especially in those engaged in dressing carcases, or who have to do with the skins of the animals. I must not enter into the forms which this disease assumes in man, which have been very fully described by Böllinger,[14] though I believe that several different diseases are included by him under the name of anthrax.

But I wish to point out the very great probability that some of the anomalous forms of pyæmia in the human subject, such as what is called angina Ludovici, for which no cause is discoverable during life or after death, may be due to contagion from this disease. One fact alone may serve as an illustration of the great facilities which exist for such contagion. In a case of anthrax, from which the material for some of my experiments was derived, the carcase had already been dressed for the London market. Some of the blood which had drained from it on to the floor was taken, and a guinea-pig inoculated with a very minute quantity. The animal died in twenty-seven hours, and its blood swarmed with bacilli. It was well known that the animal had died of splenic fever. I need hardly emphasise the urgent need of more thorough sanitary inspection. Moreover, there is some evidence that there exist forms of blood-poisoning in connexion with certain trades in this country which are really derived from anthrax, such as probably the "woolsorter's disease," of which Dr. Bell of Bradford has just reported a case in which he found anthrax bacilli in the blood[15] (THE LANCET, Dec. 27th, 1879, p. 579). Similar diseases are known to occur in like occupations on the Continent. But these forms are as yet very little known; the two diseases in which there is a local lesion—viz., malignant pustule and so-called "internal anthrax"—being the best known in relation to human diseases.

I must now pass to the other anthracoid diseases which affect the lower animals.

[13] Since the delivery of this lecture these experiments have been continued, and some of them have been detailed in the Journal of the Royal Agricultural Society (Part I. 1880). These, together with still further experiments not yet published, show that protection is conferred, which is great in degree and lasts a considerable time; and that this is true whether the poison is directly drawn from the guinea-pig or is cultivated, provided only that symptoms are produced by the first inoculation.

[14] Ziemssen's Encyclopædia, vol. iii.

[15] I may mention that I have been able to prove the identity of this disease with the splenic fever of cattle by recent experiments.

COOMBE LYING-IN HOSPITAL, DUBLIN.—The annual meeting of this institution was held recently, and from the report we learn that during the past year 680 patients were under treatment in the hospital, and 1953 attended in their confinements at their own homes. There were also 1754 attendances at the special dispensary for diseases peculiar to women, and 5448 at the general dispensary. Of the 680 intern patients 559 were in the labour wards, and 121 in the wards for diseases of women, the larger number of the latter having to undergo operations of a serious character. Since the enlargement of the hospital an increased expenditure has arisen, and a debt of some £700 has been incurred, which the Board hope shortly to discharge.

ON THE PATHOGENY OF LEAD PALSY.

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ONE of the most characteristic symptoms of saturnism, or lead-poisoning, is the paralysis of certain muscles of the forearm giving rise to the condition known as wrist-drop, or dropped hand. This condition is readily recognised by the fact that the patient cannot extend the hand upon the arm nor the first phalanges upon the metacarpal bones. The hand held out in the prone position hangs down helplessly; the only movements possible are a weak flexion and extension of the distal phalanges of the fingers and thumb. At first sight we have the spectacle offered by a paralysis of the musculo-spiral nerve from injury at the point of its emergence from between the fibres of the triceps; and the question naturally arises, To which of the possible causes is the paralysis due? If the patient presents the pathognomonic blue line along the gums—the peculiar aspect of saturnine anæmia; if he complains of colic and constipation, or if he is known to have been much exposed to the deleterious influence of the poison, then we naturally conclude that he suffers from lead palsy. But we must not forget, on the one hand, the possible concomitance of lead symptoms with a simple paralysis of the musculo-spiral from exposure to cold or slight pressure; nor, on the other hand, the possibility of a lead palsy unaccompanied by any of the other symptoms first mentioned. The patient may have been unconsciously poisoned by contaminated water, snuff, and the like, or by adulterated hair-dyes, toilet-powder, and other cosmetics, or even by medicinal use of acetate of lead, as I once observed in a case; and the first warning of the intoxication may be the paretical condition of the forearm. Now, in order to clear up our doubts, we are generally told to have recourse to two tests—that of the electrical reactions of the affected nerve and muscles, and that of the non-implication of the supinator longus. A discussion of the first will be best reserved for another opportunity; my object here is to consider the second, with a view of elucidating a point hitherto somewhat neglected in our text-books; I mean the pathogeny and localisation of lead paralysis. To Duchenne belongs the credit of having stated as a general axiom that in lead paralysis of the usual type the supinators always escape, though all the other muscles supplied by the musculo-spiral nerve are liable to be affected. The supinator longus, as he showed, is mainly a flexor of the forearm; and the method of ascertaining its condition is to tell the patient to flex the arm, whilst the observer resists the motion by holding the limb in a position midway between pronation and supination. Under these conditions the belly of the muscle, if unimpaired, starts prominently forward, and is readily seen and felt as a hard triangular mass filling up the bend of the elbow. We shall see, however, that this non-implication of the supinators among the muscles supplied by the musculo-spiral can no longer be held as a pathognomonic feature of lead paralysis; for it may also be observed in certain cases of circumscribed anterior cervical poliomyelitis—that is, of inflammation or sclerosis of certain portions of the anterior horn of grey matter in the cervical enlargement—and more especially of certain groups of the large multipolar or ganglionic cells therein contained.

It is certainly strange that such a phenomenon, the uniform protection of a muscle amidst the general paralysis and atrophy of all its companions, supplied by the very same nerve, should have been so long recognised without eliciting any attempts at an explanation. Yet this is what has happened; and it is only lately that E. Remak, in a valuable paper has propounded what appears to me to be a most satisfactory hypothesis. Most movements, such as flexion or extension of the several segments of a limb upon one another, although apparently very simple, require the co-operation of several muscles. The centres for these primitive associations are in the anterior grey matter of the cord, which contains the large cells just mentioned. These cells, arranged in groups, more or less independent physiologically and pathologically, are connected with the brain through

the "pyramidal" tracts of the antero-lateral columns of the cord (Flechsig). They give off in their turn the fibres to the anterior or motor roots which unite into the network of the cervical, lumbar, and sacral plexuses. The nerve-trunks issuing from these plexuses contain fibres derived from several of the roots, that is, from several nuclear spinal centres. It is on account of this peculiarity that when the lesion is localised in certain spots of the spinal grey matter, or in particular roots of the plexus, among the various muscles supplied by a single nerve, some are affected, whilst others escape. In the case of lead paralysis, for instance, the supinator longus escapes, because being a flexor of the forearm, its central nucleus must be more intimately connected with that of the other flexors of the forearm (brachialis anticus and biceps) than with that of the extensors of the hand. Now, since the very terms of the problem involve an elective affinity of lead for a special group of organs, I need only point out that the localisation of this group in the spinal cord gives a very satisfactory reason for the phenomenon under consideration. If we look at the independence of the spinal nucleus of the extensors as an anatomical and physiological fact, and to the common distribution of the peripheral nerve to one of the flexors as well as to the extensors as a mere contingent circumstance, the apparent anomaly is at once reduced to the reign of law.

These considerations have a plausibility which cannot be denied. They gain support, moreover, by a sort of *experimentum crucis* which nature herself has supplied for us. In a few rare cases of lead palsy the supinator has been found to be paralysed, but in those cases the other flexors (biceps and brachialis) have been found also affected. I must draw particular attention here to the great importance of a thorough electrical examination of the muscles, as it alone (especially in the earlier stages) will distinctly prove the existence of degenerative changes in muscles, the functions of which apparently are not materially impaired. The faradaic excitability may or may not be diminished; this depends upon the participation of the nerves in the process; but any qualitative departure from the normal galvano-muscular formula proves the existence of some interference in the so-called "trophic" influence of the cord, and generally heralds more serious troubles.

According to the theory, then, the flexors of the forearm and the extensors of the arm are each under the control of centres placed at different levels of the cord, through different roots of the plexus. There is a little experiment which will illustrate and confirm this view. If we stimulate the united fifth and sixth cervical roots at the point where the nervous bundle appears between the scaleni, we find that besides the deltoid and some scapular muscles, the biceps brachialis *and supinator* enter into contraction, the extensors of the hand and fingers remaining quiescent. Any one can convince himself of this fact by applying a moderate faradaic current, by means of a small pointed electrode, to a point near the posterior edge of the sterno-mastoid, and about a couple of inches above the clavicle. I had the opportunity, some years ago, of seeing a case in which owing to a lesion of the fifth and sixth roots, these very muscles were paralysed, and several such have been lately described. I think we may, in presence of this cumulative evidence, safely assume that the primary lesion in lead paralysis involves, if not the spinal centres themselves, at least the roots or cords above the points where these intermingle in the plexus to form the several nerves of the limb. The latter alternative need not detain us long; for though we may not be able absolutely to disprove it, yet every analogy is opposed to its probability. At any rate the most careful investigations have shown that, even in cases where the nerves were largely implicated in the process of degeneration, the roots themselves were healthy.

Before going any further, I may say a word about the theory of a muscular origin of lead-paralysis, which has from time to time found supporters. Some of their arguments, such as the supposed accumulation of lead in the muscles, and changes in the local circulation, have been demolished by actual demonstration; others clash with the recognised immunity of the supinator longus; others, finally, have been derived from experimental data, totally at variance with the conditions prevailing in clinical observation. This theory need not, then, detain us long.

An objection to the spinal localisation of lead palsy, however, remains to be answered. How is it that there are next to no cases on record where any pathological change has been noted in the cord, even in advanced saturnism? May I not suggest that the circumscribed, and perhaps but slight, lesion—which is all our theory would imply—has hitherto escaped attention? A thorough systematic examination of the cord is difficult and comparatively rarely carried out. But even should ulterior researches prove negative, is it necessary to assume a gross organic lesion of a nerve-centre to account for peripheral changes? In the case of lead paralysis we have primarily symptoms of diminished trophic influence of the cord, followed by loss of power. Why should not lead act here as it does in the production of hemianæsthesia—act not as a destroyer of tissue, but a modifier of nutrition, or molecular organisation, leading to suspension of function? Other poisons, such as mercury and arsenic, may give rise to nervous symptoms without producing any evident lesions to explain them. Again, in Landry's ascending paralysis, almost every activity of the cord is abolished, and yet it still ranks as a so-called "functional" disease, and it is not unlikely that in "general neuritis" a similar "functional" disturbance of the spinal grey matter is the origin of the peripheral changes. Whatever be the worth of these suggestions, we have with reference to the pathogeny of lead paralysis to accept the greater of two probabilities—to choose (*a*) between the toxic effect of the metal manifesting itself by interfering through a hitherto unexplained process with the functions of a certain independent spinal centre, and (*b*) saturnism, setting up a peculiar localised neuritis, strictly limited to a certain number of motor fibres of the same nerve, picking out precisely those originating from that centre. The latter alternative, it will be granted, has some features which make its acceptance far from easy. But I need not dwell on them, and will conclude by saying a few words on the striking resemblance between paralysis due to lead and that due to an organic disease of the anterior horn of grey matter, or poliomyelitis, such as is observed in infantile paralysis and the corresponding disease, acute or chronic, of the adult. Thus I have witnessed a case of wrist-drop, which, to use Professor Erb's own words, "nothing but the impossibility of tracing a history of lead poisoning made me exclude this diagnosis and assume the existence of a circumscribed patch of anterior poliomyelitis." Again, we have just seen that when lead affects the supinator, the other flexors are also affected, usually along with the deltoid and some scapular muscles, the reason for this distribution being the close relation of the nuclear centres of these muscles (supplied from the fifth and sixth roots). This distribution is far from uncommon in cases of poliomyelitis. Quite lately I again had the opportunity of observing it in a case of infantile paralysis, and in one of chronic poliomyelitis in an adult. In the latter, especially, the power of flexing the arm was absolutely lost; the faradaic and galvanic excitability of the muscles involved was almost extinct. The other muscles of the arm and forearm, though beginning to be implicated in the downward progress of the disease, had preserved a very fair amount of power and electrical excitability. In the somewhat rare cases where lead paralysis manifests itself among the leg muscles, its distribution is precisely the same as that which obtains in poliomyelitis. When the peroneal and extensor muscles are affected, the tibialis anticus is usually found healthy. When the latter is involved then the extensors of the leg (rectus and triceps femoris) also give signs of degeneration. The tibialis anticus, in fact, reminds one of the supinator longus by its immunity among the muscles supplied by the peroneal nerve; it probably derives its nervous supply from the fourth lumbar root, and its nucleus is in close anatomical relation with those of the extensors of the leg. Again, the great clinical resemblance between general lead paralysis and acute spinal paralysis is highly suggestive of a pathogenic unity between the two processes; and Vulpian has lately shown that progressive muscular atrophy—a disease, by the way generally considered spinal notwithstanding the somewhat conflicting data of morbid anatomy—may be occasionally traced to the influence of saturnism.

As a rule, progressive muscular atrophy is more erratic in its localisations than chronic poliomyelitis; but here also it has been my good fortune to meet with a considerable parallelism between the idiopathic and the saturnine process. In two typical cases—one of severe lead palsy, the other of progressive muscular atrophy involving the right forearm—there was a striking analogy between the muscles involved. In both the extensors of the wrist and fingers (with immunity of the supinators), the small muscles of the hand, and the long flexors of the fingers were affected. In

the case of progressive atrophy the long flexors were obviously wasted, in that of lead paralysis less so, but the remarkably feeble grasp of the patient made me suspect something beyond the loss of the antagonistic effect of the extensors, and to my surprise I found the flexors flabby and yielding the characteristic reactions of degenerative change. This observation, as far as I am aware, is the first of its kind. The dictum, probably, that in lead palsy the flexors are *never* affected, has diverted the attention of observers from their electrical condition, the testing of which, it must be added, offers some difficulties. As it is, my observation curiously tallies wirh a statement of Remak, who observes, that owing to the proximity and physiological connexions of the spinal centres of the interossei and long flexors of the fingers, these muscles are often found involved together, and that when, as happens in certain cases of saturnism, the former are paralysed, the latter, by analogy, might be expected to show signs of atrophy.

The cumulative evidence for a spinal origin of lead paralysis is, I take it, almost irresistible, and then the precise localisation of the disease offers no difficulty. We know from observations of cervical pachymeningitis that the eighth cervical and first dorsal roots supply mainly the flexors of the fingers and small muscles of the hand; the fifth and sixth cervical roots have the distribution mentioned above—viz., the shoulder muscles and flexors of the arm. There remains only the seventh cervical; it is therefore in the anterior group of large cells giving origin to this root that we must look for the primary pathological changes, whatever they be, molar or molecular, of the typical saturnine wrist-drop. Whether our therapeutical resources will benefit by our increased theoretical knowledge of the disease remains to be seen. Hitherto, besides the orthodox administration of iodide of potassium, electrisation of the affected muscles has been our sheet-anchor. A more localised, central application of the continuous current in *loco morbi*, combined with peripheral stimulation, might fairly be tried. But on this point I speak with all reserve, knowing how much the credit of electro-therapeutics has been impaired by the premature statements of narrow-minded enthusiasts.

CAUTIONS AND SAFEGUARDS ABOUT THE CLIMATE OF THE ENGADINE.

BY JOHN KENT SPENDER, M.D. LOND.

THE precept "go abroad" is much in fashion with doctors, and obedience to it is not less willingly yielded by patients. The medical injunction is reinforced by considerations of novelty, scenery, art, and æsthetics generally; pecuniary economy is quite out of the question now, for time and distance require a long and strong purse, and Continental prices often rival in grandeur those of the most favoured spots in Great Britain and Ireland. To youth and health the charm of foreign travel knows no abatement, nor are we so cynical as to wish it to be otherwise. But when the first bloom of health and youth is gone, and some of the weariness of riper age begins to be felt, new conditions are submitted to medical judgment, and nothing requires more careful forethought than advice about "change of air." A man who goes to Switzerland ought to take health in his hand, instead of searching for health when he is there. We confuse the respective benefits of mind and of body, and hastily infer that because a jaded mind is refreshed by Alpine wonders, a tired body is to be renovated by constant climbing, long excursions, and exposure to sudden thermometric and hygrometric changes. But if a body be diseased as well as tired, how much less capable is it of undergoing the discipline of the ordinary tourist, who is unhappy when not moving about, and who craves incessantly for new worlds and new skies!

I plead, therefore, that "change of air" is a desideratum not always best gratified by going abroad, and that for several reasons. 1. The fatigue of the journey many of the most popular Continental spas. 2. Excessive atmospheric heat, often alternating with violent thunderstorms and unexpected chills. 3. The incessant noise and want of homely seclusion at most of the large foreign hotels, to say nothing of the absence of many domestic comforts prized by invalids. 4. Defective sanitation is still the great European blot, sometimes fouling the places which are most lavishly dowered with natural beauty. How serious it is that a person who travels in quest of health may not only fail in his mission, but may bring home a fresh and perhaps fatal disease.[1] The rule ought to be absolute that before a medical man advises a patient to go to a foreign health resort (whether inland or by the sea), he should go there himself first and be satisfied that it possesses the telluric and atmospheric qualities for which he recommends it. Second-hand knowledge on these matters has had very mischievous results; but whenever we are obliged (as must be sometimes the case) to consult the reports of others, the accounts given in local guide-books and the like must not always be trusted without some confirmation from disinterested sources. With these preliminary words I pass to the special subject of this short paper, which is to offer a few cautions about the climate of the Engadine, and to describe the conditions and limitations within which its salutary properties may be enjoyed.

The Engadine (Oeni-Gadina, Upper Valley of the Inn) has been so often described that I need say very little here on its geography. It is situated in the S.E. of Switzerland; it is about fifty-seven miles in length, seldom more than a mile in breadth, and runs from S.W. to N.E. Even at the upper end, the source of the Inn, it is a true valley, inasmuch as it is flanked by lofty mountains; but here it is no less than 5500 feet above the sea-level, and gradually slopes downwards with the course of the Inn to Martinsbruck, which is the boundary between Switzerland and Tyrol, and where the elevation is somewhat more than 3000 feet. From these data the climate can be easily inferred. It is as inclement as that of the north of Sweden or of Finland: the cultivation of corn is almost unknown, and tillage generally is very backward. The mean temperature of Pontresina for the whole year is only 34·7° (Fahr.); that of the three summer months (June, July, and August) is about 50°. The meteorological station is 6001 feet (1829 metres) above the sea. In summer the weather is never sultry, sometimes decidedly cold; the highest temperature ever recorded is 70·77°, but even 70° is rarely approached, and at dawn of day the mercury is sometimes nearly at freezing-point in July and August.[2] I do not speak of the meteorological curiosities of this region at other times of the year, because they do not practically concern British travellers.

The diminished pressure of the air is an important medical feature in the climate of the Upper Engadine. It is indicated by the physical phenomena of the mean height of the barometer being only 24·10 inches, and by water boiling at 202 degrees: hence the atmospheric pressure is fully one-fifth less than at the seaside. The air is proportionately rarefied, and being so constantly free from vapour, solar light and heat are much intensified. There is so little obstruction to the sun's rays that they beat down with uncommon fierceness on man and beast, and render a protection to the head always necessary in the middle of the day. I have never heard to what point the black-bulb thermometer would rise on exposure to the sun; but this I can testify, that there is a feeling of *stifling heat* in the air on clear days, owing to the heated condition of all terrestrial objects. And the difference of temperature between shade and sunshine is much greater than in the lowlands.

Now I wish to draw special attention to the two sources of danger which lie in ambush for delicate travellers whose main business is to recover health. (*a*) The first peril is the extreme range of temperature between day and night. Beneath unclouded skies radiation goes on without check or stint. Quite early in the afternoon Silvaplana is thrown into shade by the sun declining behind the mountainous slopes of the Julier; shade deepens into dusk, and dusk into night, and July is metamorphosed into October. A man who takes a stroll between 9 and 10 in the evening without a thick wrap over his shoulders is an adventurer who will probably pay his penalty, however rude his

[1] There is a fashion now in favour of roaming in Brittany, and in the last (June) number of the Magazine of Art there is an illustrated sketch of the archæological attractions of Morlaix. Not a word of caution is written of the pestiferous qualities of that quaint old town, where there is enough fever and diarrhœa to satisfy the most enterprising pathologist, and as many stenches as at St. Malo.

[2] I take these details from Dr. J. M. Ludwig's excellent handbook to Pontresina and its neighbourhood, fourth edition, 1879.

strength may be. How is the traveller to ventilate his bedroom at night? There is perhaps no fire-place, and if he open the casement but a crack the almost freezing air will enter the chamber, and with an inrush proportionate to the disparity of the external and internal temperature. The alternatives, therefore, are suffocation or chill. (*b*) The other danger is the great variation in the relative humidity of the air. In the morning and in the evening the humidity amounts now and then to 80 or 90 per cent.; early in the afternoon it may fall to 30, or even 25, per cent., and the atmosphere is said to be so dry during the winter months that meat may be preserved solely by its influence for several weeks at a time.

Now a simple comparison will show the advantage of the climate of the north of Sweden and Norway during the height of summer. If the sun has much less power by reason of its lower altitude, it shines continuously for a few weeks, and there is no night at all. So there are none of the fierce contrasts of more southern regions, where the brilliant sunshine of fifteen or sixteen hours is balanced by the rapid radiation during the hours of darkness. As a matter of poetry, and as favouring sleep, it may be desirable to have more night and less day; as a matter of physiological physics it is far better to have the solar influence distributed more evenly over the twenty-four hours, and for the body to endure less thermometric extremes.

During the nine days which I spent in the Engadine last summer (Aug. 12th to the 21st) the weather was variable. Five days were absolutely cloudless; two were showery; two were very rainy, with much lightning and thunder. The few days (Aug. 19th to the 22nd) which were so bad in England were very fine in most parts of Switzerland. A thunderstorm in the Engadine may come on suddenly; in a few minutes the temperature runs down fast, and the air feels damp and chilly, like Scotland or the south-west of Ireland. Dr. J. M. Ludwig's statistics are by no means favourable to the doctrine that the climate is (on the whole) a rainless one, as the number of days on which there is "more or less rain" from June to August (inclusive) is quite equal to what we have during an average summer at home. September is generally the least humid summer month. But the unexpected changes from fair to foul and foul to fair are very trying to an invalid. He may indeed guard against them by narrowly watching the barometer; but where is the convalescent who will systematically take so much trouble? Both at Pontresina and at St. Moritz there are plenty of "oracles" who can be wise after an event, and whose philosophy consists in telling certain people that they ought not to have come there at all. I do not wish to dwell on my own miseries, and how I was confined to bed for four days at St. Moritz by acute pyrexial lumbago and sciatica; but I feel entitled to warn rheumatic and gouty folk *not* to "try the Engadine."

From a health point of view, the difficulty of Switzerland is in its "ups and downs," the close heat of the valleys and the meteorological treachery of the "passes," where, at a height of only 6000 feet, deep snow in August is not very uncommon (as in 1876). But the point I wish to emphasise is that, however high above the sea a valley may be, *it is still a valley if shut in by mountains*, and therefore cannot have those health-giving properties which belong, for instance, to a Yorkshire moor or to the sea-level itself. An English or Scotch moor may seem to the artistic eye rather dreary, but Jean Ingelow's picturesque line—

"An empty sky, a world of heather"—

conveys the idea of *openness* and freedom from barriers which is truly refreshing. To be on tolerably high ground, with nothing to check a full sweep of the horizon, suggests all the winds of heaven blowing freely about, plenty of ozone, and a positive deliverance from organic poisons and contaminations. But here is the oddity of foreign ways, that the most frequented spas or systems of baths are down in hollow basins or caverns, hedged round by alps or steep fir-clad precipices. A traveller bound for the Engadine will probably stop at Ragatz, and wind his way by the side of the "impetuous Tamina" to the historic baths of Pfäffers, buried in the bottom of a dark gorge, where even the midsummer sun can shine for only a few hours in the middle of the day. The Tarasp Spa, in the Lower Engadine, approached by miles of the loveliest scenery, and a rendezvous of sick people from all parts of Europe, is situated on the level of the Inn itself; the direct solar heat is intense, and the grand enclosing mountains hinder the proper circulation of air. I might enumerate several instances of a similar kind in Germany. What comparison, then, is there between these grilling places and our own breezy uplands and our glorious splashing seas?

I dispute not Dr. Ludwig's assertion, that the climate of the Engadine has some prime qualities, and that it may be greatly beneficial in some "nervous disorders consequent on severe illness or excessive exertion"; during recovery from some acute diseases; and as an antidote to certain grave constitutional conditions. But let it be remembered that we are dealing with a two-edged weapon, which may wound as well as heal. Exposure to storms, insufficient dress, and too long walks, are the snares which beset the invalid, and are more likely to entrap him here because the whole country is a paragon of beauty, and the air is nectar itself. To the wearied brain-worker who finds rest in the variety of outward objects and in the mere movement of travel, I say, Go to the Engadine and enjoy it to the full. But do not delay, as the valley is quickly losing its pristine innocence; and for noise and gaiety some quarters of it will soon rival Brighton and Scarborough. Nature, too, has not been entirely kind; for in 1878 the woods of the Upper Engadine were visited by a troublesome guest. A moth laid its eggs on the smallest twigs of the conifers; the caterpillars, when they came out, ate off the needles, so that the trees looked red instead of green. And the result of this devastation last summer was, that there had been a loss of thousands of larches and cembran pines.

Bath, June 9th, 1880.

FAT-EMBOLISM IN FRACTURES.

WITH NOTES OF A CASE.

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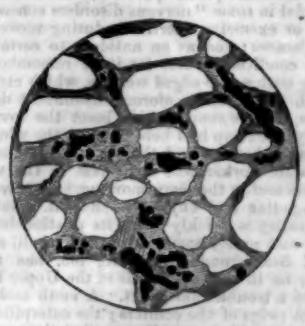
THE subject of fatty embolism in cases of fracture, though it has attracted considerable attention on the Continent, has not hitherto been much noticed in this country, and I therefore think that the particulars of a case in which this condition was found to be present after death may not be without interest to the readers of THE LANCET.

A man, aged forty years, was admitted into the Manchester Royal Infirmary about 11 A.M. on Feb. 27th, suffering from a severe compound comminuted fracture of the bones of both legs about their lower third, caused by a railway waggon passing over them. Amputation of both legs below the knee was performed antiseptically immediately after admission by Mr. Heath. The patient bore the operation very well, and was kept under the influence of opium afterwards. The evening temperature registered 101·2°. He passed a good night and expressed himself as feeling very comfortable the following morning. Temperature 103°; pulse 132; his general condition appearing altogether very satisfactory considering the severe injuries he had received. About 3 P.M., however, the same afternoon a sudden change was observed; he became very restless and excited, his countenance of a somewhat dusky hue, with increased frequency of the pulse and respiration; no rigors nor marked dyspnœa were observed; later on he became delirious and his condition was quite hopeless. At 9 P.M. the temperature was 105°, the pulse too quick and weak to be counted. There was slight discoloration of the integuments of the stumps discernible above the dressings, and a faint odour was perceptible, showing that putrefactive changes had been set up in spite of the antiseptic measures employed in the operation. At 10 P.M. death took place. (Strange to say, both the patient's arms had been amputated above the elbows about nine years previously for injuries of a similar character.) A post-mortem examination was made by Dr. Bradshaw, pathologist to the hospital, but no morbid changes of any importance were perceptible to the naked eye. As from the nature of the injuries it was thought not improbable that fatty embolism of the lungs might be

present, a portion of those organs was kept for microscopic examination.

Sections of the lung were afterwards made by Dr. Bradshaw, and on staining them with a solution of osmic acid, the presence of fatty matter in the capillaries and minute



Section of lung treated with osmic acid, showing the vessels in the alveolar walls plugged with particles of fatty matter, which is stained black. (× 150.)

arteries was at once detected by him. It presented itself as minute globules and irregular masses of various sizes and shapes completely blocking up the vessels. Unfortunately none of the other organs were kept for microscopic examination.

In this case it is difficult to say whether the fatal result must be attributed to the plugging of the minute vessels of the lungs by particles of fat, or whether it was due to a condition of acute septicæmia which so often suddenly sets in about the middle or end of the second day after the receipt of a severe injury, and which usually causes death in the course of a few hours. The symptoms of this acute form of blood-poisoning are described by Billroth as "collapse with cyanosis" suddenly setting in. "The patients appear as if suddenly poisoned after having perhaps felt quite well during the first twenty-four hours after the operation." In this case death was at first attributed to this latter condition, and the rapid rise of temperature to 105°, along with the state of both stumps, would certainly be strong arguments in favour of it. On the other hand, the fatal result may have been due to the plugging of the vessels of the lungs, for the clinical symptoms of fatty embolism, as hitherto described—viz., collapse, more or less sudden, accompanied by the general signs of shock, though usually coming on shortly after the receipt of the injury, may be delayed for twenty-four hours or even two or three days, the patient in the meantime appearing comparatively well. The taking up of the fat by the open vessels from the medulla of the bone begins immediately after the receipt of the injury, and where an interval of time elapses before the symptoms of pulmonary embolism suddenly appear, may it not be explained on the supposition that the fatty matter, temporarily arrested or stranded in the vessels in the neighbourhood of the wound, is, after a time, when the patient has recovered from the shock of the injury, and when reaction has set in, suddenly carried on with the blood-stream under the influence of the renewed circulation, until it is arrested in the vessels of the lungs?

Fatty embolism of the lungs, though most commonly observed in compound, has also been found in cases of simple, fracture. A very interesting case was reported by Dr. Hamilton, of Edinburgh (*Brit. Med. Journal*, October, 1877), where this condition was found in a patient after rupture of a fatty liver, and it is not at all improbable that it is present to a greater or less degree when life is suddenly terminated by severe injuries, and especially in those cases attended by lesions of the osseous system.

In a paper published by Prof. Sanders and Dr. Hamilton, which appeared in the *Edinburgh Medical Journal* last year, particulars are given of a case of diabetic coma, in which, after death, fatty embolism of the lungs and also of the kidneys was observed. In the former organs, "not only were the small vessels plugged with the oily embola, but in the larger and middle-sized arteries the oil-globules spread themselves out on the wall of the vessels and adhered to it." A peculiar condition of the blood was observed, and this has also been found to exist in other cases of a similar nature. It presented the characteristic odour of acetone, and, on standing, a milk-white stratum collected on its upper surface, which on microscopic examination was found to consist of "a fine chyle-like emulsion of oil, the globules being minutely divided."

Though numerous cases have been described on the Continent, these are, as far as I am aware, the only two hitherto recorded in this country in which on post-mortem examination fat-embolism of the lungs has been found to exist.

The most recent researches on the subject of fat-embolism are, I believe, those of Wiener (*Arch. für Experim. Path.*, Vol. xi.), who made a number of experiments on different animals (dogs, rabbits, frogs), injecting pure olive oil into the serous cavities, veins, and subcutaneous tissue.

In a first series of experiments, he found that when oil was injected into the pleura or peritoneal cavity, extensive fat-embolism was found in the capillaries of the lungs in the course of a few hours. When the oil was injected into the subcutaneous tissue the pulmonary embolism, which was much more limited, did not appear until the third or fourth day; this he proved was due to the intervention of the lymphatic glands, which retained and probably at the same time partly emulsified it. The conclusion he draws from these results is that the fatty matter can be taken up not only by the veins (as was formerly supposed), but also by the lymphatics, even when they are intact, and that the intervention of lymphatic glands does not, as has been suggested, altogether prevent fat-embolism in the lungs.

In a second series of experiments Wiener found that changes in the lungs, consisting of ecchymoses and pulmonary œdema, due to the presence of fat-emboli, were only present when very extensive fat-embolism existed; hence he infers that as a rule fat-embolism is perfectly harmless and does not give rise to the symptoms of dyspnœa, convulsions, shock, &c., which have been observed in man in cases of fat-embolism occurring after fractures. This view is supported by the fact that many of the animals experimented upon remained perfectly well, and yet when killed fifteen to twenty days after the injection, showed extensive fat-embolism of the lungs.

In a further series of experiments with respect to the ultimate destruction of the fatty emboli, he found that this condition was present in many organs, but especially in the brain and kidneys; few, if any, emboli were found in the liver, as in this organ the fatty matter seems to pass very readily through the walls of the capillaries, becoming deposited in the form of large fat-drops in the hepatic cells. In the kidneys the fat is found in the glomeruli, in the vasa afferentia, and in the tubuli themselves; from these facts, coupled with the appearance of large masses of fat in the urine soon after the injection, Wiener infers that the greater portion of the fat injected is carried with the blood into the kidneys, where it is eliminated in the glomeruli, and passes away with the urine. At the same time no doubt another portion, by becoming emulsified, is taken up by the lymphatics. Finally, he found that in moderately strong dogs all the fat injected appeared to become eliminated in from three to four weeks.

As illustrative of the facts observed by Wiener with respect to the part played by the liver in cases of fat-embolism, I may refer to a case of diabetic coma which was a short time ago in the Manchester Infirmary, under the care of Dr. Dreschfeld, and in which, both before and after death, the blood was found to contain large quantities of fatty matter. On post-mortem examination, Dr. Dreschfeld found no evidence of fat-embolism in the lungs nor in the liver, but in the latter organ he observed extensive and well-marked fatty infiltration of the hepatic cells.

As a complication of simple fractures, fat-embolism must not be confounded with those cases of venous thrombosis starting from the neighbourhood of the injury, and where death sometimes suddenly results from detachment of a portion of the clot and its lodgment in the pulmonary artery or one of its large branches. In THE LANCET of March 1st, 1879, I published particulars of two cases of this fortunately very rare complication of simple fractures of the lower extremity, where, on post-mortem examination, embolism of the pulmonary artery was found, causing sudden death.

The whole question of fatty embolism is still involved in much obscurity, and, from the importance it possesses both in its clinical and its pathological bearings, it is one well worthy of further investigation.

LITHOLAPAXY IN BOMBAY.

By H. BLANC, M.D.,
PROFESSOR OF CLINICAL SURGERY, GRANT MEDICAL COLLEGE, BOMBAY.

I THINK that the new rapid method of lithotrity will meet with a large field of usefulness in India. In this country the stones found in adults are frequently too large to be operated upon by the old method, and, moreover, the natives are adverse to submit to repeated operations to rid themselves of a disease which they expect us to remove at once; hence lithotrity has never been very favourably looked upon by surgeons practising in India. The six cases of litholapaxy here given did remarkably well. I used an ordinary lithotrite, not being able to obtain the more powerful one recommended by Dr. Bigelow, and the fragments were removed by means of Sir H. Thompson's improved evacuator. In my last three cases I made a small incision to the meatus, and this enlargement of the narrowest part of the urethra greatly facilitated, I found, the introduction of the evacuating catheter.

CASE 1.—Poona Ghar, age forty, a Hindoo, was admitted into the clinical wards of the I. I. Hospital on Nov. 2nd, 1879, suffering from stone in the bladder. The disease is of three years' duration. The patient, of temperate habits, is much worn out by pain and sleepless nights. Suffers from lumbar pains. Urine of a pale-yellow colour; sp. gr. 1009, no albumen; no pus. On Nov. 11th lithotrity was performed. The sitting lasted thirty-five minutes, and a large quantity of débris removed by the evacuator. Moderate reaction followed. On the 15th a second sitting of thirty minutes, and on the 23rd a third sitting of ninety minutes. Before removing the patient from the operation table the bladder was thoroughly examined, and no débris could be found. No reaction and very little pain followed.

On Dec. 6th the report of his case states: "Urine quite clear; micturition quite easy and natural. Discharged perfectly cured."

Weight of fragments 306 grains. Nature of calculus uric acid.

CASE 2.—Ezekiel Mordecai, a Baghdad Jew, aged thirty, was admitted into the clinical wards of the I. I. Hospital on Nov. 16th, 1879, suffering from stone in the bladder, and from internal and external piles. The disease is of ten years' duration. Suffers from lumbar pains. Micturition attended with great pain; urine deep amber colour, sp. gr. 1016; albumen present (due to blood); urine on cooling forms a considerable deposit, which, under the microscope, is found to consist of phosphates, pus, and epithelial cells. On Nov. 25th lithotrity was performed, the sitting lasting ninety-five minutes, the amount of débris removed weighing 480 grains. Scarcely any reaction followed, but the urine for several days was tinged with blood. On Nov. 29th a second sitting of twenty-five minutes, the débris on this occasion weighed 246 grains. Mild reaction followed, and for several days he complained of pain in the perineum during micturition, and the urine, which was bloody for the first twenty-four hours following, afterwards contained some pus. Under treatment this subacute cystitis readily disappeared, and he was discharged cured on Dec. 31st.

Weight of fragments 726 grains. Nature of calculus uric acid.

CASE 3.—Burgugu Eduljo, aged twenty, a Parsee, was admitted into the surgical clinical wards of the I. I. Hospital on Dec. 4th, 1879, suffering from stone in the bladder. The disease is of two years' duration. General health fair. Urine amber colour, sp. gr. 1020. It contains a large amount of pus and mucus, and the microscope detects oxalate of lime. No lumbar pains, but suffers from frequent desire to pass water. On Dec. 7th lithotrity was performed, and the stone entirely removed in thirty-two minutes. It was exceedingly hard to break. Moderate reaction followed, and for several days the urine was much tinged with blood. He complained of great pain during micturition, but the symptoms gradually lessened, and he was discharged cured on Dec. 31st.

Weight of stone 180 grains. Nature of calculus oxalate of lime.

CASE 4.—Mypathi Juxmow, aged thirty, a Hindoo, was admitted into the clinical surgical wards of the I. I. Hospital on the 19th March, 1880, suffering from stone in the bladder. The disease is of two years' duration. General health good; urine clear, sp. gr. 1013, no albumen present. The operation of lithotrity was performed on the 23rd March, the sitting lasting twenty-eight minutes. Almost all the stone was removed, and no fragments would have been left had not the sitting been suspended owing to the patient's becoming violently sick, the cause being bad chloroform. On the 28th March the remaining fragments were crushed and the débris removed in a short sitting of five minutes. No general reaction followed either sitting. After the first sitting the urine was slightly tinged with blood for twenty-four hours. He was discharged cured on the 4th April.

Weight of the fragments 270 grains. Nature of calculus oxalate of lime.

CASE 5.—Jam Alladin bin Mahomed, aged twenty, a Mussulman, was admitted into the clinical wards of the I. I. Hospital on March 20th, 1880. The disease is of two years' duration. The previous history of the case is the following: Two years and a half ago he fell on his pelvis from a certain height, and a long chip of wood about half an inch in thickness penetrated into the rectum and pierced the bladder. The piece of wood was withdrawn by his friends, and for the few following days the urine constantly trickled through the rectum; but the communication between the rectum and bladder soon afterwards closed, and the urine was again expelled by the urethra, mixed with pus and blood. This condition lasted some six months, when the urine gradually cleared. His general health is indifferent; he is pale and anæmic, and he frequently suffers from attacks of malarious fever. The urine is muddy, and contains sand. At times he suffers from much pain, and shortly afterwards he passes pus and blood again for a few days. A small stone was felt with the sound free in the bladder.

On March 28th the crushing operation was performed, the patient being rendered insensible by a mixture of chloroform, ether, and alcohol, nevertheless he took the anæsthetic badly, and one ounce and a half of brandy had to be injected per rectum before the operation was begun. Scarcely had the stone been divided by the lithotrite when the blades were found to be locked. Finding it impossible to open them again, the screw was firmly tightened, and the instrument with great difficulty, but very gently, withdrawn, when a piece of wood an inch in length was found firmly lodged between the blades. The lithotrite was again introduced, and after some calcareous matter had been crushed, another piece of wood was extracted, this time without difficulty. That evening some reaction followed, and the patient complained of much burning pain in the urethra. The next day both temperature and pulse fell to normal, while the urethral pain greatly lessened. For the first twenty-four hours the urine was slightly tinged with blood.

The patient, although progressing favourably, still complained of some pain at the end of micturition. The bladder was therefore carefully examined with a lithotrite, and another small piece of wood seized and removed. Since then the patient is quite well.

Weight of fragments 120 grains; weight of wood 30 grains. Nature of calculus phosphates and uric acid.

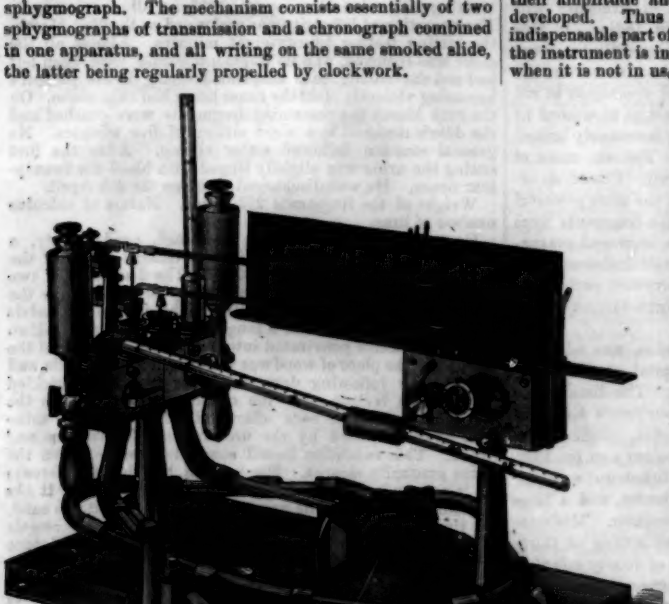
CASE 6.—Nag Rune Ally, age thirty-five, a Hindoo, was admitted into the clinical wards of the I. I. Hospital on April 17th, 1880, suffering from stone in the bladder. Duration of disease six years. General health good. Complains of frequency of micturition, and of pain in the pubic region when walking and at the end of micturition. Urine high-coloured; sp. gr. 1024, contains no albumen. On the 20th April the operation of lithotrity was performed, the sitting lasting fifty-five minutes, including the time spent in removing the débris. Slight reaction followed, and the urine was slightly bloody. On the third day after the operation pulse and temperature were normal, and the urine, with the exception of a little mucus, clear and healthy; but as he still complained of some slight pain at the end of micturition, the bladder was injected with four ounces of tepid water, and carefully examined with a small lithotrite, when a last fragment was detected and crushed. He was discharged well on May 3rd.

Weight of stone 430 grains. Nature of calculus uric acid.

THE COMPOUND SPHYGMOGRAPH.

BY A. T. KEYT, M.D.

THE cut below represents my improved compound sphygmograph. The mechanism consists essentially of two sphygmographs of transmission and a chronograph combined in one apparatus, and all writing on the same smoked slide, the latter being regularly propelled by clockwork.



The sphygmographs are uniform, and constructed as follows :—

The base for receiving the movements is an oblong receptacle closed below by an elastic membrane, and opening above into a transmission tube. The latter is of convenient length, usually twenty-four inches, made up of alternate sections of glass and flexible tubing, and communicating by its opposite end with the vertical branch of a T passage. The horizontal branches of the T communicate each with a small chamber. Over one chamber is secured a graduated glass tube, over the other a delicate elastic disc; the chambers and passages are filled with *pure water;* and to provide for expulsion of air from the disc-chamber, a small passage connects its upper part with the index-chamber; a stopcock opens and closes this passage. At the junction of the T is placed a 3-way stopcock, which, according to its position, directs the movements to the index-tube or the disc. From the centre of the disc a pin arises, whose point is lodged in a small hollow cone depending from the writing lever, and to which it is attached by a sliding clip. The lever is light, six inches long, and its axis is pivoted to an adjustable plate. The pin-socket is usually placed half an inch from the centre of the axis. The lever's point just lightly touches the recording surface. A reservoir with a depending ampulla and stopcock conveniently regulates the supply of liquid to the apparatus. The entire apparatus, except the bases, which are freely movable in any direction, is firmly secured to suitable supports.

The basal and disc membranes are each adjusted and maintained at a standard tension by means of a proper screw device, and the standard tension for each is determined by a definite and easily applied formula. By these means uniformity in the action of the membranes is secured.

The graduated glass tube serves as a diverticulum for the liquid displaced from the base as the latter passes down upon the organ whose movements are to be observed. At the same time the liquid column displays the movements to the eye, indicating their form, and measuring with precision their amplitude and the pressure at which they are best developed. Thus the index-tube is an interesting and indispensable part of the instrument. (It is placed erect when the instrument is in use, and turned down for convenience when it is not in use.)

The chronograph is essentially a watch provided with a mechanism for marking the divisions of time. It is a complete instrument, very convenient, and its record of seconds and fifths is entirely reliable.

Two sphygmographs are conjoined in one instrument, because the arrangement is quite convenient, and so extends the application that a simple sphygmograph in comparison with this combination appears of very small value.

This compound instrument answers all the purposes of any sphygmograph, and in addition is adapted to a great variety of physiological and clinical uses. It traces in a perfect manner the pulsations of the heart and of the different arteries, of the fontanelles, of tumours, the movements, respiration, muscular contractions, &c. By means of the index-tube it exhibits these movements to the eye; by means of the chronograph it shows their exact time relations; and by means of the double arrangement it traces two movements, as of the heart and an artery, simultaneously, showing their relations to each other, and securing all the advantages of such a record. It is used with great facility, and executes the work with which it is charged with an extreme fidelity.

Cincinnati, Ohio.

CASE OF LABOUR, WITH ALBUMINURIA.[1]

BY STANLEY HAYNES, M.D.

ON July 24th, 1878, at 10.30 P.M., without having had any previous knowledge of the patient, I was called to attend Mrs. P——, a gardener's wife, a primipara, aged twenty-six. A nurse had arrived just before I was sent for (about half an hour previous to my attendance), and been so alarmed by the condition of the patient that she had immediately given a glass of hot brandy and water and said a doctor must be obtained directly. On my arrival the patient looked as if she had had serious hæmorrhage, but there had not been any. The face had a deadly pallor, the nostrils were contracted, the eyelids half closed and twitching, the breath was cold and breathing slow and superficial, and there was a cold perspiration on the forehead; the pulse was barely perceptible, and slow. The patient was calm and sensible, said she felt very well, and was quite unaware of there being anything unusual. She calculated she had gone between seven and eight months. There had not been any convulsions. Labour had begun about 4 P.M. with ordinary prodromata, and pains had not become regular or frequent until about 7 or 8 o'clock, when the liquor amnii, in apparently small quantity, escaped, and the patient had continued about her household vocations until then. There was no vomiting. The patient had not complained of illness or debility. (Neighbours subsequently stated she had been very pale during her pregnancy.)

On examination there was not, and had not been, any hæmorrhage; the external genitals, the thighs, legs, feet, and arms felt cold, like those of a corpse, and the ankles were

[1] Read before the Worcester Medical Society, April 28th, 1880.

œdematous. The abdomen could not be termed warm. The warmest part of the body was the thorax, and that was of low temperature. I had not taken a thermometer. The os uteri was of the size of a shilling, dilatable; the presentation was left occipital anterior, and the pains came on about every ten minutes, were slight, and appeared almost unknown to the patient. Brandy and water was repeated in frequent small doses, with one-drop doses of laudanum, and heat, applied to the feet, calves, thighs, and abdomen, producing warmth where applied, but very little improvement to the circulation or respiration. The pains gradually became more frequent, and the os slowly enlarged. At about 2 A.M., as the general state of the patient continued as described, I sent for my friend, Dr. Thelwall Pike, in consultation. On his arrival at about 3 o'clock he approved of the treatment so far, agreed it would be better to watch and wait carefully unless there should seem reasons for expediting the labour, and regarded the case with anxiety. Soon after he left the pains became stronger, the labour advanced rapidly, the patient remaining cheerful and suffering very little even during strong expulsive efforts, and a recently dead female child was born. After a short interval pains recurred, and the placenta came away with very little, and that pale, hæmorrhage. The patient expressed herself as very comfortable, and soon became warmer, and I left her doing well at about 8 A.M. She made a good and rapid recovery, and seemed surprised I had been anxious about her.

When the lochia had ceased the urine became almost solid on boiling; it did not contain any casts or crystals. There was marked leucocythæmia. Under chalybeates and potassic chlorate she speedily improved, and assumed a natural but sallow appearance, and the albuminuria steadily diminished and ceased. On Sept. 3rd (six weeks after parturition) she was so far recovered she did not wish for further attendance. I advised recourse to the treatment in the event of relapse or of pregnancy.

On March 31st, 1879, eight months after confinement, I was asked to see her again, and found leucocythæmia and albuminuria, and prescribed iron and potash as before. She took this for a month only and recovered. In August she had a living child at full time, after a natural labour, and without the attendance of a medical man. Since then she has continued well.

Malvern.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

TWO CASES OF ANTISEPTIC SURGERY.

(Under the care of Mr. HAYNES WALTON.)

FOR the following notes we are indebted to Mr. Augustus J. Pepper, F.R.C.S.

CASE 1. *Strangulated Umbilical Hernia; Opening of the Sac; Recovery.*—T. D——, aged sixty-two, who had been a heavy drinker for the greater part of his life, having "taken to gin" when he was thirteen years of age, was admitted on Jan. 17th, 1880. Fifteen years before, a very small navel rupture was discovered, which gradually increased in size. On more than one occasion incarceration occurred, and the gut could only be returned by taxis under chloroform. The last time this happened was a week before final strangulation. At the time of the operation, the hernia, which was as large as a billiard-ball, had been strangulated for four hours and a half; it was very tense, partly resonant and partly dull on percussion. Vomiting had been frequent. Taxis having failed, it was decided to place the patient under chloroform; this was done, but reduction by manipulation could not be effected. Under the strictest antiseptic precautions, Mr. Walton then proceeded to divide the constriction, which was found to be situated in the neck of the sac. The hernial sheath contained about two ounces of blood-stained serum, and a coil of small intestine, of a deep-red colour from congestion. Three sutures were used to close the wound, but no artificial drainage was employed.

On only one occasion did any elevation of temperature occur—namely, on the third day after the operation, when it rose to 102° F., but quickly subsided on removal of the sutures. The discharge from the wound was quite aseptic throughout the six days the gauze dressings were applied. At the end of this time only a superficial sore remained, and this got well with simple detergent lotions. The aperture leading from the hernial sac into the abdomen seemed to be obliterated by the time the patient was convalescent.

It may be stated that there was also a large double inguinal hernia.

CASE 2. *Blade of penknife in knee-joint; removal; recovery.*—C. H——, aged twelve years, on Dec. 29th, 1879, ran a penknife which he had carried open in his pocket into his thigh just above the knee, but the nature of the injury was only suspected the following day, when it was found that the blade of the knife had been broken off close to the hinge. The wound healed by first intention, but considerable pain and swelling in the knee-joint ensued, and on the eighth day after the accident Mr. Walton saw the case, and detected a foreign body projecting beneath the skin immediately above the left patella.

On Jan. 8th an incision was made under the spray, and the blade was removed. Some little difficulty was experienced as the blade of the knife was wedged beneath the patella, necessitating a free incision into the quadriceps extensor muscle.

The wound healed rapidly without suppuration. For a few days slight exudation into the joint could be detected, but the temperature remained normal throughout, with the exception of a rise of two degrees on one day coincidental with an attack of urticaria (not confined to the limb). The operative incision was closed by a single suture; no drainage-tube was used.

The antiseptic dressings were discontinued on the 20th, and on the 23rd the joint was encased in a plaster-of-Paris bandage. No pain or inconvenience was experienced when the lad was allowed to walk about on the 27th.

The blade of the knife was an inch and a half long.

MANCHESTER ROYAL INFIRMARY.

CASE OF LOCOMOTOR ATAXY WITH ARTHROPATHIES.

(Under the care of Dr. DRESCHFELD).

B. W——, aged fifty, mechanic, married, with no history of either syphilis or alcoholism, had always enjoyed good health till fifteen years ago, when the first symptoms of locomotor ataxy came on. These symptoms consisted in the inability to walk in the dark, and in the presence of lightning-like pains in the legs, in consequence of which he was soon obliged to give up his work. Seven years ago the pains in the right thigh, without losing their lightning-like character, became suddenly much more persistent, and obliged the patient to take to his bed, and to remain in bed for a month, when they left him as suddenly as they came. On trying to get up he found now that his right leg was much shorter than the left, and that there was a projection on the right hip, which occasionally would suddenly disappear with a peculiar noise. Any movement of the thigh or leg would, however, make this projection very soon reappear. Three years ago the left knee began to give way without any exacerbation of pain, or any sudden swelling of the joint, and very gradually assumed its present position, that of extreme backward dislocation. In consequence of these joint affections, walking, which was already difficult before, became only possible with the help of two sticks. The general health of the patient had remained very good throughout, his eyesight had been bad for some years, but he had never suffered from vomiting or any bladder troubles.

On admission patient looked well and healthy; the thighs were considerably wasted, but the rest of the body was not emaciated. The chest and abdominal organs were perfectly healthy. There was no affection of any of the cerebral nerves, except marked white atrophy of both of the discs. The pupils were contracted and reacted to accommodation, but not to light. The upper extremities were perfectly normal. The lower extremities showed the chief symptoms, and here, as regards (1) sensation, there were diminution of

tactile sensibility, analgesia of certain spots, and retardation of sensibility. The sense for temperature and weight was normal; the muscular sense was considerably affected. The patellar tendon reflex was quite absent. Both lower extremities were often the seat of the lightning pains. As regards (2) trophic changes, (*a*) the muscles of both thighs were flabby and atrophied, but especially the muscles of the left thigh. (*b*). There was marked dislocation backwards of the left thigh, so that when the patient stood the upper surface of the tibia could distinctly be felt under the skin. There was no atrophy of either of the articulating surfaces, nor any new deposit of bone round the joint, as far as could be made out on manual examination. The head of the right femur was dislocated on to the dorsum of the ilium, and could be felt as a distinct round projection; it was freely movable and could easily be reduced, but very soon slipped out again from the acetabulum on to the dorsum. Owing to this dislocation the left knee was situated four inches lower than the right knee, which difference disappeared as soon as the reduction of the head of the femur was effected. The head of the dislocated femur did not seem to be atrophied, nor were there any bone deposits to be felt about the joint cavity. A mass of bone, however, of more than one inch in length was felt, situated in the sheath of the sartorius muscle, totally unconnected with the joint, but moving freely with the muscles during this contraction. As regards (3) motility, there was considerable diminution of motor power in both legs, but more in the right than in the left; the patient was, however, able to stand and to walk with the help of two sticks; his walk was characteristically ataxic; he was unable to walk with his eyes shut, and with his eyes open his gait was very unsteady, owing to the ataxy and the dislocations.

Remarks.—Though the joint affections in nervous disorder, but especially in locomotor ataxy, are now sufficiently well recognised, yet not many cases of this nature have been recorded in English medical literature, and it is only very recently that Dr. Buzzard has again drawn attention to this subject and brought forward an interesting series of cases (*Medical Times and Gazette* Feb. 14th, 1880). The chief points of interest which are attached to this case are briefly these: 1. The presence of a mass of bone situated in the course of a muscle. Such a condition is noticed in two of Dr. Buzzard's cases, but is not usually found in the arthropathies of ataxic persons (see Talamon, *Revue Mensuelle*, 1878). 2. The gradual development of the dislocation of the knee, whilst in almost all cases reported the joint affections follow an acute effusion into the joint. 3. The absence of any atrophic condition of the articulating surfaces of the bones concerned in the dislocation, at least as far as a careful surface examination could show. 4. The absence of the "crises gastriques" which usually accompany the arthropathies.

WEST NORFOLK AND LYNN HOSPITAL.

COLLOID CANCER OF MAMMA.

(Under the care of Mr. WILSON.)

FOR the notes of this case we are indebted to Dr. Blomfield, house-surgeon.

Mary Ann B——, aged forty-two, married, was admitted on March 16th, 1880, with a tumour in the breast. Her previous history was good; her mother was said to have cancer. The patient gave the following history of the mammary swelling:—About sixteen months before she first began to have pain in the right side of the neck; this was followed by pain in the right breast. She first noticed the swelling in the right breast as a small lump the size of a nut. It increased gradually, and with little pain. She thought she had lost flesh. She was, however, a healthy-looking woman. Examination of the right breast showed a hard, circular, somewhat nodulated, and fairly movable tumour, the size of a chicken's egg. There was no retraction of the nipple. The tumour occupied the posterior part of the right breast to the axillary side of the nipple. There was a suspicion of slight enlargement of a gland in the axilla.

The growth being regarded as malignant, Mr. Wilson removed the entire breasts by the usual operation. The naked eye appearance of the tumour after removal was characteristic. It consisted of a somewhat circular mass of jelly-like semi-transparent material of a greyish hue, surrounded by no very evident capsule, with delicate shreds of connective tissue between jelly-like masses.

Dr. Creighton, of Cambridge, kindly examined the tumour, and reported: "The sections show the most typical colloid condition, roundish spherical masses concentrically laminated; the whole field is made up of such round laminated bodies, and there is hardly a trace of any cellular formation."

The wound did well, healing rapidly, and the slight glandular enlargement in the axilla disappeared.

The patient was discharged cured on May 8th, 1880.

STAMFORD AND RUTLAND INFIRMARY.

LITHOTRITY, WITH RAPID EVACUATION (BIGELOW'S METHOD); TWO SITTINGS; CURE.

(Under the care of DR. NEWMAN.)

IN the early days of any novel procedure it is always well to bring under the notice of the profession cases which may yet throw some light on the value of the special treatment in question.

W. W.——, aged sixty-five, labourer in a maltkiln, was admitted April 20th, 1880. Since August, 1879, he had had every indication of stone in the bladder; blood had passed with the urine, thick matter was at times present, and he had very frequent calls to pass water with even considerable pain. If he sat very still in his chair for some time the pain was not so severe, and the need for micturition became less urgent.

On admission he was a stout, flabby-looking man, and declared that he had very good general health, as a rule, but had of late lost nearly a stone in weight from broken rest and continual pain. The urine showed sp. gr. 1025, normal acidity, cloud of mucus, no blood, no albumen, no sugar; crystalline deposit of uric acid in moderate quantity.

On April 21st Dr. Newman sounded him, and readily struck a calculus, lying rather to the right side. The next day, wishing to measure the calculus, it was caught, and measured with Thompson's scoop lithotrite. It was half-an-inch across; but when an attempt was made to shake the stone from the grip it was found that the blades had taken too firm hold of a soft stone, and the stone had therefore to be crushed before the instrument could be withdrawn. Nine grains of débris were removed in the jaws.

On April 24th ether was given, and profound anæsthesia kept up for twenty minutes. The bladder was partially filled with water, and three introductions of a screw fenestrated lithotrite for the first time, and three of the ordinary scoop lithotrite for twice more, were practised. After each crushing Bigelow's elastic exhauster, attached to a No. 16 slightly-beaked catheter, was employed.

Twenty grains of fragments were removed. The instruments were actually in the bladder for nine minutes and three-quarters. There was frequent micturition and some urethral smarting after the operation. Twenty-four hours after the sitting he was hot and cold for three hours, and temperature (normal before) was found to be 101°. This feverish attack soon, however, passed by, and his local suffering became much less. Thirteen grains of fragments were passed within the next few days.

A week after first dealing with the case, on May 1st, the same crushing and removal of fragments were put in practice. The man was under ether for forty-five minutes, and little over thirty minutes was given to the actual operation. Eighty-three grains of stone removed at the time. Twenty-one grains were subsequently passed with urine—in other words, one hundred and fifty-six grains of lithic acid were collected within twelve days. (A single fragment, weighing twenty-one grains, was removed at the time of second operation through the evacuating catheter.)

The man had no subsequent feverishness and no trouble. The urine was noted to be perfectly clear on the fourth day after the second sitting. No remaining fragment could be detected by very careful sounding, and on May 11th, seventeen days after the commencement of the surgical treatment, the patient went home quite well.

Remarks by Dr. NEWMAN.—Few words of comment are needed. The stone was thought probably to be not very large, and lithotrity, on the older lines of working, would most likely have ended in perfect cure, but with much more of time, suffering, and greater risk. The operation proved to be more tedious than difficult, and there was no hitch in the working of the elastic evacuating bulb. I would only add that when, as in this case, there is prostatic enlarge-

ment, it seems very desirable to keep the catheter well home within the cavity of the bladder.

Medical Societies.

EPIDEMOLOGICAL SOCIETY.

A SPECIAL meeting of the Society was held—President, Sir Joseph Fayrer—on June 15th, to discuss certain papers which had been read during the past session on the "Continued Fevers of India and Tropical Climates." Three of these papers, one by Deputy-Surgeon Dr. J. Ewart, one by Surgeon-General Dr. C. A. Gordon, C.B., and one by Dr. W. G. Don, were printed and circulated amongst the members, together with others known to be interested in the subject, and they dealt specially with the questions whether the common continued fever of those countries was enteric fever, and if so, whether it was due, as in this country, to a specific poison associated with conditions of excremental filth.

After a few preliminary remarks by the President, the debate was opened by Surgeon-General MURRAY, who expressed an opinion that continued fever in tropical countries differed materially in its signs and type according as those attacked were natives or Europeans.—Sir WILLIAM SMART, K.C.B., referred to the marked mildness of the various forms of continued fever in the islands of Bermuda, and he gave the result of his experience in China, where, he alleged, enteric fever was recognised as a distinct disease in 1859; but as no history of its incidence upon the natives prior to that date could be ascertained, it was inferred that it had been generated amongst the British forces who at that time were exposed to local conditions of excremental poisoning. —Inspector-General LAWSON held, as the result of experience at Mediterranean stations and in Cape Colony, that simple climatorial causes did not lead to enteric fever, unless, indeed, as a predisposing cause in special localities where fæcal causes also obtained. — Surgeon-Major WHITE referred especially to Assam, where fever of the enteric type had prevailed until conditions, which up to that date had led to the excremental fouling of water, were abolished, and then the disease subsided.—Dr. BUCHANAN could only profess to look at the subject of Indian fevers by the light of experience gained in the study of continued fevers in England. Referring to the papers specially under discussion, he pointed out that attempts seemed to be made to identify a disease now by means of some anatomical character, now by means of clinical symptoms, or thirdly, by an appeal to considerations of cause. The last means of identifying disease appeared to him questionable. In England we were content to know enteric fever by the total of its symptoms and pathological appearances, and to proceed from that standpoint to the investigation of cause. We had long known the clinical disease, and had not yet become fully acquainted with the circumstances of its production. Given a continued fever with more or less diarrhœa and spleen enlargement, with special characters of temperature curves, with successive crops of rose spots on the skin and with certain anatomical characters in the fatal cases, we have known it as enteric fever. In England, having come to know our disease, and not till then, we have gone on to learn lessons about its association with one and another external condition, and then by degrees we were learning of its causation. But the numerous and valuable results that inquiries about causation had heretofore yielded did not prevent our having, but rather led us to have, ever fresh doubts whether we know all the conditions for the appearance of the disease, and assuredly had taught us that we did not yet know the conditions for its production. Inquiry as to the way in which fever had made its appearance in a household—to say nothing of inquiry, in a stricter sense, as to "cause"—had been found to involve a process of living over again, as it were, the life of each patient before his attack, with differentiation of his life from that of other people. That process was difficult enough of accomplishment under the conditions of English society, but must needs be incomparably more difficult where a fever occurred in individuals of an alien race having traditions and caste-notions separating them by wide intervals from the people who were endeavouring to investigate the origin and spread of disease among them. The impression that Dr. Buchanan had received from a study of the three papers was that it was perfectly permissible to regard much of the described fever of India as being identical with European "enteric fever." It was modified, no doubt, by circumstances of Indian life, yet did not appear to differ more from our own enteric fever than one case or one outbreak might differ from another case or another outbreak of this multiform disease when it was witnessed in Europe. It was not from any single one of these three papers that he had formed this opinion, but it was essentially from observation of what the three papers, taken together, appeared to him to agree upon.

Mr. NETTEN RADCLIFFE dealt in detail with many points specially referred to by Surgeon-General Gordon, who, though admitting that, so far as symptoms and pathology were concerned, a disease resembling enteric fever did prevail in India, yet denied that it was etiologically the same, and even threw doubts as to the views held regarding the etiology of the disease in England. Mr. Radcliffe pointed out that Dr. Gordon had implied that the continued fevers of India were but one single form of fever, whereas in his paper he at once proceeded to divide them into as many as twelve groups. Dr. Gordon had further quoted in support of his views as to the unity of "fever" an opinion of a distinguished author, which was penned as far back as 1843, since which date that author had, as was well known, not only changed his views, but had accepted the classification of the continued fevers enumerated by Stewart and Jenner. Dr. Gordon's use of the term causation was most misleading, points being referred to as causes which in reality were nothing more than conditions, associated with the prevalence of disease. The study of climatology in connexion with disease was of the utmost importance, but the assertion that an infectious fever was of climatic origin, when even the local circumstances under which it existed were not recorded, was damaging to the cause of epidemiology; for, although it was obvious that climate governs every condition of life, health, disease, and death, yet that did not necessarily constitute it a cause of any special disease. Dr. Gordon's materials were also misleading, and having been obtained as the result of the issue of circulars to a large body of medical officers spread over a vast area, they were almost necessarily untrustworthy. Anyone having experience of the difficulties associated even in this country in investigating causes of epidemics must know how little value is to be attached to data got together in such a manner. But even accepting the facts recorded in the returns issued, they, in some important respects, led to conclusions diametrically opposed to those embodied in Dr. Gordon's paper. As to the 175 cases on which Dr. Gordon chiefly based his conclusions, that gentleman had submitted that *seven* only were real cases of enteric fever, the others being, as he argued, so-called "climatorial" fever. Of what value it was asked could seven cases, scattered over several years, and distributed in a wide territory, be in determining a question of this kind. But Mr. Radcliffe proposed to accept the diagnosis as given by the recorders, and was not prepared to admit a greater margin of error in diagnosis than would have occurred if a similar number of medical practitioners had been applied to by circular in England. What followed? Why, 25 per cent. of the total cases furnished no evidence whatever either in one way or another with reference to the question of etiology, and, deducting these cases, it was found that the greater proportion of the remainder (53·5 per cent.), according to the recorders, had occurred under conditions o "fæcal effluvium from latrines," or the patients had been exposed to chances of infection or to local conditions which are known to be chiefly associated with enteric fever. He was quite unable to reconcile these data with Dr. Gordon's statement, that in not a single one of these cases was there any evidence of the existence of such "causes" of enteric fever as govern the prevalence of that disease in Europe.

Dr. W. DICKSON considered that in tropical climates the continued fevers were attended by many more complications than in Europe, and to this was due many of the differences of opinion which were held with regard to them.—The PRESIDENT, quoting from official statistics, drew attention to the fact that enteric fever was recognised as the principal fatal fever in many parts of India; but at the same time he expressed a conviction that there is a form of "fever" in tropical climates which, as regards its cause, is not identical with

the enteric form of this country.—Dr. GORDON, who quoted largely from official and other reports, with reference to the comments which had been made, explained the circumstances under which the inquiry on which his report was founded had been directed, and stated that he had necessarily been kept within the lines laid down by the Army Sanitary Commission. He maintained the opinion that in hot climates a fever resembling enteric fever in its symptoms prevailed, but that it was due to climatic influences and not to filth or other specific causes; he further stated that ulceration of Peyer's patches took place in connexion with a form of fever which was alone due to climatorial causes.—Dr. W. G. DON maintained similar views, asserting that local insanitary conditions occupied, in the production of continued fever, a less important influence than that of climate, and that enteric fever would still prevail in tropical climates if all those conditions were removed. —Dr. EWART, however, argued from his experience that enteric fever as it prevailed in India was not due to climate; he denied that so-called malaria had any influence in producing it, and as the result of lengthened experience he stated that he had never met with that disease except where it was dependent on the same causes as those with which its prevalence in England was associated. —Dr. A. P. STEWART was specially called upon to address the meeting. He had, however, at a previous meeting declared himself entirely opposed to the doctrine enunciated by Dr. Gordon, and had expressed the opinion that views such as those held by Dr. Gordon and Dr. Don reminded him of the state of medical opinion in this country some twenty-five years ago, before the pathology of enteric fever, as well as the difference existing between that disease and the other continued fevers, were understood, and he felt that after perusing the papers he had nothing to add to the statement he had then made.

CAMBRIDGE MEDICAL SOCIETY.

Menorrhagia in old age through emotional disturbance.—Diabetes from same cause.—Therapeutic uses of Hyoscyamine.—Secondary Pelvic Tumour.—Gummata in Brain, Liver, and Testicles.—Bovine Tuberculosis in Man.

AT a meeting of the Society on the 4th June, Professor Paget, M.D., F.R.S., President, in the chair,—

The PRESIDENT related two cases in which a discharge of blood from the womb, which the patients spoke of as the menstrual discharge, had been brought on in advanced years through emotional disturbance. The influence of emotion is not often manifested in causing menorrhagia when years have elapsed since menstruation had naturally ceased. In the first case, a married woman aged sixty-five, a sanguineous uterine discharge had been continuing for three weeks before she presented herself; it had been brought on, she said, by the return of her son from abroad. In the absence of any other assignable cause, there could be no doubt that this emotion attending her son's return was really the exciting cause. He was her only surviving child, he was in prosperous circumstances, and his return had been eagerly expected. Fifteen years had elapsed since her last menstruation. The discharge soon ceased under treatment with iron.—The second patient, aged sixty, lost her husband, and soon after her daughter, who died suddenly in childbed. Her mental distress was very great; her mind became disordered; simultaneously menorrhagia came on, and she had also a delusion that there was a baby in the bed. The catamenia had ceased naturally many years before.—As regards the first case, some explanation of the unusual occurrence may be found in the previous history of the patient. Though she had been quite well for years before her son's return, she had formerly been epileptic, and had had an epileptic son. This nervous constitution was probably a predisposing cause. The history of her epilepsy gives us further hints of concurrent causes. The fits began when she was forty-five years old, when her menstruation was beginning to be less regular than it had been. For two years previously she had been subject to attacks of faintness with vertigo. These syncopal or minor epileptic attacks had come on after the death of her epileptic son in London after a few days' illness with enteric fever. The fits were very severe, and kept recurring for some years. In one of them, in which she fell backwards, striking her head violently against the floor, there was, simultaneously with the fit, a slight "show" of the catamenia, which had previously not appeared for three years. Before the fit she had a painful uneasiness in the right iliac region, and a kind of aura proceeding from this point, and occasioning a feeling of alarm. The same phenomena followed another epileptic fit two years later. The circumstances under which she became epileptic (the death of her son) indicated maternal feelings unusually strong. The time at which she became epileptic (when the catamenia were beginning to be less regular) indicated some connexion between the functions of the organs of generation and the state of nervous system which manifested itself in epilepsy. The like is indicated more definitely by the slight menstrual discharge accompanying one of her fits, and the abnormal sensations in the region of the right ovary on this and another occasion, so that we are not wholly at a loss to account for the unusual occurrence of menstrual flow being excited by emotion in this woman at the age of sixty-five.

The PRESIDENT related also in connexion with the above cases two cases of a disease that much more commonly follows emotional disturbance—viz., diabetes. In the one case the patient was a woman, aged forty-four, the wife of a farmer; the diabetes came on while she was, and had been for some weeks, anxiously nursing her only son in a dangerous illness. The quantity of urine was large, the sp. gr. 1039, and contained a large quantity of sugar. In the other case the patient was a woman whose husband died in good circumstances, leaving her his executrix. Grief for the loss of her husband, combined with the worry of managing his affairs, brought on diabetes, of which she died six months after her husband.

Dr. BACON gave an account of the preparation known as "Hyoscyamine," and of its therapeutic uses. There are two preparations sold under that name, both made in Germany. One is Merk's "Extract of Hyoscyamine," and the other is a crystallised preparation in the form of a whitish powder and of variable strength. His experience has been limited to Merk's extract. It is most conveniently administered dissolved in alcohol, one grain to the drachm. The solution mixes badly with water, a resin forming on the sides of the bottle. The preparation deteriorates by keeping; if it become greenish in colour, it is a sign that its strength is lessened and that its action may not be relied on. It is called by the manufacturer the "extractive amorphous alkaloid" of hyoscyamus, and is very costly. With this preparation he has found the effects much more potent, and more certain and reliable than those of ordinary henbane. Its action is that of a powerful sedative and hypnotic, and it is the only sedative and hypnotic in his experience whose action may be certainly relied on. Doses as large as two or three grains (of Merk's extract) have been administered; he had himself never given more than a grain and a quarter, and his usual prescription was three-quarters or one-half a grain. If three-quarters of a grain be given to a maniacal patient in a state of excitement, he will be reduced in half an hour to absolute helplessness, and will be probably asleep or comatose. The lips become red, the face dusky, and the saliva flows from the mouth; the pulse is quickened and there is dilatation of the pupil, lasting for twenty-four hours; the other symptoms pass off in about twelve hours. Vomiting had occurred in two or three of his cases. The drug is especially valuable in treating the maniacal condition (chronic or acute). It had been used in delirium tremens, and its power of inducing quietude and sleep to a certainty indicated its value in that condition. In some cases the beneficial results flowing indirectly from its use had been so great that he had been able, after a time, to dispense with the drug. Two cases had occurred in his practice which would serve to show where caution was necessary. In the one (a private patient) only half the dose prescribed was given, and the patient, instead of being sent to sleep, was put into a state of excitement and delirium. In the other an accident, fortunately not fatal, followed the administration of the drug. The patient had become profoundly insensible, and had vomited, and part of the vomit (consisting mostly of partly digested bread) appeared to have got into the air-passages, giving rise to corresponding symptoms.—Dr. LATHAM could not join in Dr. Bacon's opinion that henbane in its usual pharmacopœial form is quite un-

reliable. The potency of the leaves no doubt depended on the time of gathering them, and on the care with which they were dried.—The PRESIDENT referred to the experience of a neighbouring practitioner, who had the henbane grown near him, and the extract made by a trustworthy person, and who always found the drug so obtained to be potent and reliable in its action. He had the other day prescribed henbane in a bad case of epilepsy, which no other drug had benefited, and the result was that the patient had been altogether free from fits for three weeks, and when they recurred they were less frequent than before.

Dr. EASBY showed a large tumour weighing upwards of four pounds, which seemed to have grown from the left ilium, in a woman fifty-two, who had the left breast amputated for cancer two years before.

Dr. BRADBURY gave an account of a case in which gummata were found after death in the brain, liver, and testicles. The patient was a man aged thirty. The first symptoms, eight months before admission, were pain in left arm and shoulder, and loss of power in left arm and hand. Under treatment the symptoms disappeared in a fortnight. Three months after he had pain in the supra- and infra-orbital regions of the right side, and gradually lost sensation over the whole of the right side of the face, the pain meanwhile increasing in severity. A month before he came in, he suddenly began to squint with the right eye, and experienced "flashings" before the eyes, which came on sometimes two or three times a day. About the same time both testicles began to swell, without pain, and continued to increase in size. He observed also loss of taste on the right side of the tongue. On admission, he had most of the above symptoms. The squinting referred to was marked internal strabismus; there was also a degree of ptosis. The tongue deviated a little to the left, and the levator muscles of the angle of the mouth on the right side were in an almost tonic condition of spasm. A few days after admission the conjunctival vessels of the right eye were congested (January 28th), and on February 9th there was a small spot of commencing ulceration on the cornea. The ulceration on the cornea continued to spread for some days, and then began to heal. On March 9th the ulcer was healed, a patch of opacity remaining. Congestion of the conjunctival vessels reappeared after a time; and a few days before his death (on May 24th) the opaque area of the cornea sloughed. Meanwhile the pain in the face, and the spasm of facial muscles, varied in degree from day to day, and there was some left facial paralysis. He began to pass the evacuations in bed, and there ensued marked loss of strength, general tremors of the body, constant twitching of the lower lip, speech almost unintelligible. Before death the left hand was completely paralysed. He was treated with calomel and iodide of potassium. Post-mortem: The tunica vaginalis on both sides was distended with fluid; body of testes considerably enlarged; on section two large nodules of yellowish-brown substance (gummatous) in each testis, and an appearance of parallel whitish streaks (interstitial orchitis). The liver showed extensive depressions and puckerings of both surfaces, the acini greatly enlarged in certain places, and gummatous nodules (up to the size of a bean) chiefly in the thin left lobe. Within the cranium, attached to the dura mater and making a depression in the surface of the brain about the centre of the right ascending parietal convolution, was a firm round and flat gummatous body, about the size of a horse-bean. On the surface of the pons Varolii on the right side, involving the roots of the fifth and sixth nerves, and just overlapping the origin of the seventh, was another flattened gummatous mass. Another gumma was found on the upper surface of the cerebellum, in the middle line anteriorly, situated in the membranes, and not involving the substance. On section of the brain, a large mass of semi-transparent gelatinous substance, with an opaque yellow centre, about the size of a walnut, was found in the occipital lobe of the left hemisphere near the surface. The right corpus striatum and optic thalamus were softened, and broke down readily under a stream of water.

Dr. CREIGHTON gave an account of observations, microscopic and other, on eight cases of a peculiar variety of tuberculosis which he believed to be Bovine Tuberculosis communicated to man. (See THE LANCET, June 19th, 1880.)

AT a Convocation held at the University of Durham on the 22nd June, Dr. Pyle of Sunderland was elected a member of Senate of the University.

Reviews and Notices of Books.

Army Medical Department Report for the Year 1878. Vol. XX. Parliamentary Blue-book. pp. 332.

[SECOND NOTICE.]

WE have so recently noticed the health of the Army in India in 1878, in our review of the Report of the Sanitary Commissioner,[1] that it seems unnecessary to enter again upon the details. We would merely refer to an interesting table furnished by the Principal Medical Officer in Bombay, showing the comparative mortality and invaliding of officers, non-commissioned officers, and privates in each of the ten years from 1869 to 1878 inclusive. The average of the whole period is as follows:—

Per 1000 of mean strength.	Officers.	Non-com. Officers.	Privates.
Deaths ...	11·35	... 21·12	... 14·05
Invalids ...	90·35	... 41·66	... 40·18

The most striking features in this comparison are, the high rate of mortality of the non-commissioned officers as compared with the privates, and the proportion invalided of the officers compared with both. It may be a question how much the lower rate of mortality of the officers depends upon this circumstance. Not only was the invaliding of soldiers from India in 1878 above the average, as shown in the Report previously noticed, but the number discharged at Netley was one-third higher than in the preceding ten years. There was a very large increase in the number discharged under the head of "debility," probably the result of malarious diseases.

The extracts from the sanitary reports of stations at home and abroad afford good evidence of the watchful care exercised by the medical officers. They also show the steady, though, we regret to add, too slow progress of improvement in the sanitary conditions of the quarters occupied by the troops. They are, however, of such a nature as to preclude our making any summary of them, and we must content ourselves with referring our readers to the Report itself. We may, nevertheless, notice two circumstances. The first is the appearance at Mauritius in the end of the year of a new disease in the district of Moka, and which subsequently spread to other localities. It has since been diagnosed as "beri-beri." It has been confined entirely to the Indian population, and chiefly to those whose caste prohibits the use of meat. It is stated to have been found amenable to treatment, particularly in cases which came early under observation. The other point we would note is that at Hong-Kong, during the period of rifle practice, as malarious fevers were very prevalent at Kowloon, the men, instead of being quartered there, were taken over and brought back daily in steam launches, and with the most satisfactory results.

The appendix to the volume begins with the report on the progress of hygiene, by Professor De Chaumont, under the usual headings of Legislation; Work of Societies, &c.; Literature; and Special Points of Hygiene. Under the last is given a tabular statement of the results of 68 analyses of drinking water sent to Netley from various stations of troops at home and abroad. Of the 68 waters reported upon, 27 were fit for use, 22 usable or required filtration, and 19 unfit. These results would have been more valuable had the combustion method been employed and the nitrates determined. As it is, we are inclined to doubt the correctness of the judgments pronounced upon some of the waters. The experiments on filtration previously recorded have been continued. A new filtering agent, called "carferral" (carbon, ferrum, alumina), has been tried, with great success so far. It is even placed before spongy iron, which, however, is shown to be very valuable. Further experiments

[1] THE LANCET, May 29th, p. 854.

are, however, necessary, as the lasting power of the filter cannot be said to have been ascertained.

Another interesting but, we think, equally incomplete research upon Disinfectants is contributed by Surgeon-Major J. Lane Notter. The valuation of disinfectants is confessedly a most difficult matter, and the results hitherto obtained are singularly contradictory. The method adopted in the present experiments was simple enough. Beef infusion, swarming with bacteria, was treated with five, ten, and fifteen cubic centimetres of 10 per cent. solutions of fifteen different disinfectants, and the liquid examined with the microscope, immediately or after twenty-four hours. Under these conditions chloride of lime was found most efficacious, and the green terebene powder next. Tests of this kind have, however, only a limited value, as there is no proof that the real, or at any rate the only, work of a disinfectant is to kill bacteria. There are moreover certain apparent discrepancies in the results which puzzle us. Thus Burnett's fluid (chloride of zinc) takes a very respectable place, as it has done in so many previous experiments; whereas the new disinfectant, sporoktin, is represented as worthless. Now, sporoktin is merely an alcoholic solution of chloride of zinc saturated with sulphurous acid; and we fail to see how the presence of sulphurous acid can destroy the efficacy of chloride of zinc. It is curious that sulphurous acid should not have been included in the experiments. Whether it will kill bacteria or not, it will be difficult to convince medical men who know the history of the cattle-plague epidemic that it is useless as a disinfectant.

Dr. De Chaumont gives a very brief notice of an epidemic of enteric fever in the Royal Marine Artillery at Eastney Barracks, Southsea, upon which he and Professor Macdonald, R.N., were called to report. Here is his description of the condition of the barracks:—"We found that the drains were unventilated, that the overflow, waste, and sink pipes passed direct to the drains, and that the closets were untrapped except by means of the antiquated D trap. The sewage passed into the sea, but the tide washed up the sewer at high tide to some distance, blocking back the sewage and favouring the production of sewer gases. The blocks of building most affected were the officers' quarters, or those which would be most directly or immediately affected by this action of the sea water." And this state of things, be it observed, in a barrack first occupied in 1864! Who was responsible for this malconstruction, and how did it happen that Sir A. Armstrong never discovered it, for as a marine barrack it must have been under his department?

In accordance with the custom of preceding years, the late lamented Surgeon-Major Porter drew up his tabular summary of the capital operations performed at Netley during the year 1878, the last in which he held the appointment of Assistant Professor of Surgery. Notes and lithographic illustrations are given of some of the more interesting cases, and the results of treatment in thirty-seven cases of permanent stricture of the urethra, all of them invalided from foreign stations.

We again note with regret the absence of any communication from the professors of Medicine and Pathology. It surely is not too much to expect that they should turn to good account for the profession generally, as well as for the Army Medical Department, the splendid field of observation they occupy at Netley.

South Africa has furnished the subjects for four papers in the appendix. The first is a very interesting medical history of the Galeaka-Gaika War in 1877–8—that with the Kaffirs which preceded the Zulu War—by Surgeon-General Woolfreyes, the principal medical officer at the Cape; the second is a tabular statement, by Surgeon-Major Hickson, of the wounds and injuries received in action during that war; the third, a short, but spirited account of the defence of Rorke's Drift, by Surgeon-Major Reynolds; and the fourth, a very brief report on the climate and diseases of Natal and Zululand, by Surgeon-Major N. Alcock. The details connected with the health of the troops in the Zulu War will, of course, be given in the next volume. There are two other papers which we shall just mention—"Remarks on Enteric Fever in India," by Surgeon-General Ker Innes, C.B.; and "Cholera, its Natural Laws and Progress," by Surgeon-Major Marston. We noticed these papers so very fully when they first reached this country that it is unnecessary to revert to them.[2] As we have in the course of these remarks pointed out some of the deficiencies which have struck us in the report, we shall only in conclusion express our regret at the continued absence of the abstracts of diseases, &c., in the different military commands, which in the earlier volumes furnished so much valuable information, and enabled us to check the statements made and opinions given in the reports. It is due to the Medical Department to say that the blame of the shortcoming does not rest with it, but is a result of the miserable ignorance or petty economy of the authorities at Her Majesty's Stationery Office, and at the Treasury.

The following interesting table shows at a glance the sanitary condition of the British Army during the year 1878:—

—	Average strength.	Ratio per 1000. 1878. Admitted to hospital.	1878. Deaths.	Previous 10 years. Admitted to hospital.	Previous 10 years. Deaths.
United Kingdom ..	101,129	812·4	6·5	—	—
Mediterranean:					
Gibraltar	4702	671·4	6·6	667·4	6·7
Malta	6201	892·9	12·3	810·5	10·6
Cyprus	894	4397·1	40·3	—	—
Canada	1725	586·7	5·8	685·5	8·7
Bermuda	2017	656·9	5·9	676·1	12·2
West Indies	1119	1004·4	13·4	806·2	11·0
Cape and St. Helena	5029	926·1	10·7	962·6	10·2
Mauritius	416	2569·7	31·2	1740·6	18·2
Ceylon	1015	900·1	15·8	1022·3	16·5
China and Straits ..	1843	1104·7	13·0	1289·7	15·0
India:					
Bengal	35,347	1599·6	22·2	1444·6	21·6
Madras	10,880	1336·1	23·2	1220·2	19·8
Bombay	9882	1805·3	21·6	1386·8	16·4
On board ship	1314	535·9	3·0	495·3	5·0

Atlas of Histology. By E. KLEIN and E. NOBLE SMITH. Part XI. Smith, Elder, & Co. 1880.

THIS part contains the Urinary Organs, the Male Genital Organs, and the Female Genital Organs. The structural arrangement of the urinary tubules is given with great care, no less than sixteen separate segments being distinguished between the Malpighian capsule and the mouth by which the tubule opens upon the papilla. There are in succession the capsule, its neck; the proximal convoluted tubule; the spiral tubule of Schachowa; the descending limb of Henle's loop; the loop proper; the thick part of the ascending limb; the spiral part of the ascending limb; the narrow ascending limb in the medullary ray; the irregular tubuli; the distal convoluted tube, or Schweigger's intercalated tubule; the curved collecting tubule; the straight collecting tubule of the medullary ray; the collecting tube of the boundary layer; the large collecting tube of the papillary part; and lastly, the duct. Each of these segments is separately described. Dr. Klein remarks, that with the exception of the descending limb of Henle's loop and the loop itself, a delicate membrane exists which lines the inner surface of the epithelium; that is, it lies between the epithelial cells and the lumen. Eleven figures illustrate the structure of the kidney.

In speaking of the testes the authors follow the development of the seminal cells with much detail. They describe

[2] See THE LANCET, October 4th, 1879, and February 7th, 1880.

the fully developed and ripe spermatozoon as consisting of a homogeneous, well-defined discoid oval head, to which succeeds the middle piece of Schweigger-Seidel, varying in length in different animals. This portion is homogeneous and rod-shaped, and attached to it is the filament or tail, thinner and much longer than the middle piece, and ending in a pointed extremity. In man the filament is continued over the middle piece as a fine, wavy, or spiral thread. There is also a sheath which covers the hind part of the head, and is continued over the middle piece. The head of the ripe spermatozoon is the modified nucleus of the spermatoblast; the filament or tail is derived from the granular body of the original cell. The middle piece of Schweigger-Seidel is an outgrowth of the nucleus of the spermatoblast—that is, of the head of the spermatozoon; and the clear tube of the developing spermatozoon embracing the hind part of the nucleus is the sheath which in the triton is observable on the middle piece of the fully-formed spermatozoon. In considering the development of the Graafian follicles (we hope the authors will excuse us for inserting the additional *a*, which is surely the correct orthography), the account given by Balfour is followed; and here, as elsewhere, the drawings are most excellent and instructive, and are, to a great extent, original.

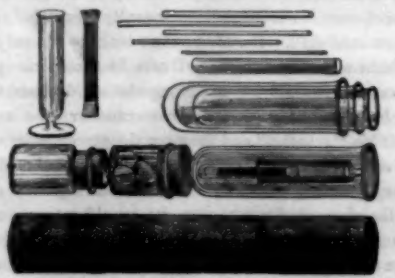
New Inventions.

MEDICAL AND SURGICAL BED-DRESS.

MR. GOOD, of 50, Praed-street, Paddington, has submitted to us a sample of a bed-dress suggested by Mr. H. Cripps-Lawrence. The dress, which can be made of any material, is buttoned up all down the front and back, and also from the neck along each sleeve to the wrist. It is obvious that such a dress can be applied with the greatest ease to patients unable to bear the fatigue or pain of changing the ordinary dress, and it is so arranged that any part of the body can be exposed for examination or treatment without disturbing the whole dress. It will certainly be very useful in many cases of severe illness.

DR. RADCLIFFE CROCKER'S URINE-CASE.

MESSRS. MAYER & MELTZER, of Great Portland-street, have made for Dr. Radcliffe Crocker an extremely compact and useful pocket-case for examination of urine at the bedside. The case is just over six inches in length, and is easily carried in the breast pocket. At the bottom of it are



two small bottles, containing respectively methylated spirit and three of Cooper's copper pills for testing for sugar. Above these are a nest of three test-tubes, between which are the two test-papers, which keep the tubes from shaking. Inside the inner tube is a small glass tube on a foot, containing a wick and three capillary tubes of nitric acid. Spirit is poured into the little glass, one end of the wick dropped in, and a small but sufficient spirit-lamp is constructed. With this case the practitioner can easily and rapidly examine urine for sugar and albumen. The case requires to be a little stronger than that forwarded to us, or it will not stand continual use. In addition to its extreme simplicity and compactness, this case has the advantage of being cheap.

COPPER TEST-PELLETS FOR SUGAR.

To the Editor of THE LANCET.

SIR,—May I ask you to insert a few words with reference to the copper test-pellets for sugar, which, at my suggestion, have been prepared by Mr. Cooper, of 26, Oxford-street. The object of these pellets was to supply a copper test for the examination of urine of a more convenient and staple nature than the copper solution. When kept under suitable conditions they fulfil all that can be desired. I have received information from some who have procured them that they have become moist, and thereby spoilt on keeping. Hitherto they have been sent out in corked bottles rendered air-tight with sealing wax. As long as the bottle has remained unopened they have been all right, but when the sealing wax has been broken the cork has allowed the penetration of moisture, which, being absorbed by the caustic potash contained in the pellet, has led to its becoming moist. All that is wanted to prevent this occurrence is that they should be kept for use in a good stoppered bottle; and Mr. Cooper, in consequence of the representation I have made to him, has liberally undertaken to supply them in future in stoppered, instead of corked bottles. Those who now have them in corked bottles should transfer them as soon as opened to a bottle provided with a well-fitting glass stopper. By this simple measure all objection is at once removed.

I am, Sir, your obedient servant,

Grosvenor-street, July 5th, 1880. F. W. PAVY.

CHIAN TURPENTINE IN CANCER.

To the Editor of THE LANCET.

SIR,—As I have a patient with scirrhous cancer of the uterus who has taken almost without intermission every four hours the pills of Chian turpentine *à la* Professor Clay, will you allow me to state the result of the remedy in my hands.

The patient commenced to take the pills on March 29th last, when there were all the usual local signs of advanced cancer, minus a fetid discharge per vaginam. A strong hard mass extending over the whole uterine structure, but more especially infiltrating the posterior wall, and projecting thence almost through the os. Paroxysms of pain coming on so severe that large doses of morphia were necessary to relieve them. The appetite not only gone, but the stomach refused to take almost any food. The cancerous cachexia very evident, and the patient's spirits very much depressed, and floodings much and often. Now, on examination per vaginam there is still a considerable tumour to be felt, but it is comparatively very soft and yielding to the touch, and not by any means so extensive; there is little or no hæmorrhage; pain by no means so severe as formerly, and almost entirely confined to the thigh and leg of the left side. The appetite is excellent, and the cancerous colour of the skin and complexion almost gone. The patient expresses herself as feeling *very* much better in every way, and is in the habit of attending to household duties and taking out-door exercise as when in her wonted state of health.

The disease in this case was first discovered on Nov. 26th last, when the tumour was situated on the posterior wall of the uterus, and only then of about the size of a walnut. There has hitherto been no disturbance of the functions of rectum or bladder, except a tendency to constipation. The disease made rapid progress until the turpentine pills were taken, and since the first day of her taking them, March 29th, so far from progressing the mischief appears to have stopped.

I may add that the glands of the neck are enlarged, and have been during the last four or five months. When painful, extract of belladonna locally applied has always relieved the pain.—I am, Sir, yours, &c.,

J. E. KENYON, L.R.C.P. Lond., M.R.C.S. Eng.
Formerly House-Surgeon to the Hospital for Women, Soho-square, London.

Bradford, Yorks, June 26th, 1880.

THE LANCET.

LONDON: SATURDAY, JULY 10, 1880.

THE Judges adhere pertinaciously to a view of the practical question of responsibility for crime which leaves much to be desired. Mr. Justice HAWKINS, in his summing up in the case of JAMES SWEETLAND, follows the lines laid down in a well-known judgment, and asserts (we quote from *The Times* of Tuesday, the 6th inst.) that, "to establish a defence on the ground of insanity, it must be clearly proved that at the time he committed the act the accused was labouring under such a deficiency of reason from disease of the mind as not to know the nature or quality of the act he was committing, or, if he did know what he was doing, that he was not aware that the act was wrong." Further on in the same report we read: "It was impossible to define what insanity was, but as far as the criminal law went, it must be that state of mind which made a person unconscious of what he was doing, and that it was a wrong act he was committing, even though he knew what that act was." Again: "It must be that insanity which prevented a man from knowing the nature of an act, or that it was wrong." Mr. Justice HAWKINS is too sound a lawyer and too wise a judge to have given expression to an opinion at variance with the principles of law as they are still understood by the Bench. There is obviously a strange lack of breadth in the legal view of insanity as a disease; but is it so narrow as to exclude all cases of delusion in which the subject acts under a supposed self-consciousness of evil influence? The man who thinks the devil or some fiend instigates or drives him to the commission of an offence may know what it is he does, and be painfully aware that it is both wrong in itself and contrary to law, but nevertheless do it, and do it insanely in such a way that common sense must excuse, and the law can scarcely condemn, him. It is needless to cite instances of this class; the books are full of them, and even *one* would suffice to upset the postulate assumed by Mr. Justice HAWKINS.

The case of SWEETLAND is, as a whole, one of considerable difficulty. Mr. MONTAGU WILLIAMS did not put the popular argument too strongly when he said that if "insanity" were to be accepted as an excuse for crime committed "in a state of carelessness and recklessness" induced by the habit of drinking, "no person's life would be safe for a moment." It is a most regrettable circumstance that this question of responsibility is left to be raised and disputed as a ground of defence. It would be incomparably better if the plea of insanity were disallowed, and the question of *responsibility* made the subject of special inquiry after the jury had given its verdict, and before the judge pronounced sentence. Irresponsibility should never be allowed to form a question before the jury or the Court *during* a trial. It is solely a question for the Crown, and might well be determined after a prisoner was delivered over to the judge, as the representative of the Sovereign, for punishment. We should then get rid of two evils at one sweep: 1. The importation of a foreign element into the process of weighing evidence on the question of *fact*, with which alone any lay jury can be competent to deal; and, 2, the cross play of assertion and argument, which discredits truth and science, in the conflicting interests of the opposing parties. Nothing is more undesirable on grounds of public prudence than to leave questions involving great issues to an incompetent tribunal. The balancing of technical evidence cannot possibly be a task to be entrusted to any lay judge or jury. As well set a man ignorant of the law to determine between the merits of two elaborate legal arguments, as expect a layman to decide which of two medical "opinions," the one for and the other against an accused person, is that which ought to be adopted. What would any reasonable man think of the proposal that the Lord Chancellor should be a person ignorant of the law? Yet such a proposal would be precisely in accord with the practice which sets a judge and jury, both ignorant of medical-psychology, to decide between the conflicting testimony given by medical men, called by the Crown and for the accused respectively, in a case like that we are considering. Of course neither judge nor jury can know anything about the matter in dispute, and the only indication to help them is the *status* of the opposed witnesses, which must sometimes prove an untrustworthy guide.

In the case of SWEETLAND there would seem to have been some evidence of hereditary disease, and certain peculiarities in his conduct which *may* have been symptoms of insanity, but there is really nothing in the evidence to shape the judgment of an alienist. The materials for a decision on the question of responsibility are wanting. The fact that shot was deliberately purchased, apparently with a view to the commission of the crime, counts for nothing. The most pronounced lunatics often show the greatest cunning and premeditation in the perpetration of offences. Nor is it important to either side of the case that the accused showed consciousness of what he had done immediately after the crime, and observed reticence subsequently. Those who have had much experience among lunatics will not need to be reminded of the difficulty which often besets the task of making out the formal proof of their insanity. The worst and more dangerous cases are often, if not generally, the most obscure. The diagnosis of insanity is especially a matter of personal skill. Dr. MAUDSLEY took up the only tenable position when in a recent civil case he stated his opinion as an expert, and, relying on his reputation, declined to bandy words with the unskilled cross-examiner who sought to elicit his "reasons," and discover the processes by which he arrived at his conclusions. It would be well if medical witnesses generally were as wise in their bearing. For example, in the case of SWEETLAND we would rather accept Dr. BUCKNILL'S opinion on the basis of his skill as a diagnostician than entertain his hypotheses as a psychologist; and that opinion is that the man was mad when he committed the crime of which he has been convicted, and that even now he has the delusion that the deceased watched him for the purpose of doing him an injury.

The only point on which we are sufficiently well informed to adventure an opinion as to this case, and that a very strong one, is that the Crown cannot in common justice proceed to execute the sentence of death without a

proper medical inquiry. Public opinion will not be satisfied with the carrying out of the sentence until the question of *responsibility* has been determined. We cannot suppose the judge or Home Secretary will be inclined to leave the matter in the present state of incertitude. It is, therefore, only necessary to urge the expediency of prompt action. Respect for the administration and for the law is weakened when there is unnecessary delay in these cases. An inquiry *must* be instituted. It is a clumsy and costly expedient, but absolutely indispensable under the circumstances. Nothing can be gained, and something may be lost, by delay. A writer on the subject of "Impulse and Responsibility" has said: "The justification of a plea of insanity must, I think, take the form of a demonstration that the impulse alleged to have been morbid exhibits the characteristics of disease, or that it occurred in the course of a paroxysm of the malady." This pretty well covers the area and marks the limits within which the search for evidence should now be prosecuted. Every day the inquiry is delayed, the diagnosis, from the medico-legal standpoint, becomes increasingly difficult, and new sources of error are incorporated with the case; for example, the mental effects of remorse, hope, and despair, with the ever-impending, though disguised, dread of steadily approaching death. It is not politic in the interests of pure justice, with which society is chiefly concerned, to delay an examination of this character until influences which may either crush or *recover* the mind have established their sway. It seems to be forgotten that a man who was mad when he committed a crime, and, therefore, ought to be absolved, may be cured by the mental effects of his trial and condemnation!

THE annual report of St. George's Hospital and of ATKINSON MORLEY'S Convalescent Hospital, give some very interesting data concerning the use of stimulants other than beer in St. George's and other hospitals, and include a singularly suggestive report of the "previous habits" of some of the patients, in respect of stimulants, the careful work of Dr. ISAMBARD OWEN, the Medical Registrar of the hospital for 1877–8. The London hospitals have generally acted on the view that beer was a necessary part of ordinary diet. Until 1879 that was the practice at St. George's. In that year we are glad to say, with the concurrence of the medical staff, a rule was made that malt liquor was not to be furnished except by order of the medical attendant. Ever since this rule the quantity consumed has not been much diminished. It is very desirable that the members of the medical staff should fully realise the importance of this question. In other institutions the reduction of the quantity of stimulants or their entire withdrawal would seem to have done nothing but good, and it is probable that careful experiments in this direction might be the saving of many a hospital patient morally and physically.

A committee was lately formed at St. George's to ascertain the comparative use of alcohol in twelve large London hospitals. About a fourth of the patients it is found in all the hospitals are under daily treatment with stimulants other than malt liquor, which would seem to be a matter almost of course. The proportion of those receiving wine and stimulants is almost the same at St. George's. The variation in the quantity of wine and spirit per patient in the different hospitals is not satisfactory, and implies a want of principle or uniformity. Thus, in twelve London hospitals the quantity of wine annually consumed varied from 6·145 ounces to 45·248 ounces per patient; spirits from 7·098 ounces to 32·980 ounces per patient; the equivalent of alcohol in wine and spirits varied from 4·537 ounces to 21·117 ounces. The annual average of the equivalent of alcohol consumed per patient is less than in St. George's in seven hospitals, and in four it is higher. We now come to the record of "previous habits," from which it would appear that there is too much homœopathy in the use of much of the alcohol in hospitals to be consistent with sound medical practice.

"Certain patients are reported to have been accustomed, previous to admission, to a daily consumption of three or four pints of beer and two glasses of whisky (age fifty-three); four or five pints of beer, with frequent excesses (age fifty-nine); ten pints of beer and ten glasses of whisky (age twenty-three); hard drinker, chiefly of rum (age thirty); indulged in great excesses, often drinking two bottles of brandy a day (age forty-three); eight pints of beer daily (age forty-two); four pints of beer, with excesses (age thirty-eight); eight pints of beer daily (age forty-two); five pints of beer, with excesses (age thirty-eight); three glasses of whisky (age thirty-four); one pint of beer and six glasses of whisky, with excesses (age forty-five); eight pints of beer, with two pints of gin or whisky (age forty-three); one or two pints of beer, with ten glasses of spirits (age thirty-six); up to ten or twelve pints of beer, and four glasses of whisky (age twenty-two); twelve pints of beer and five glasses of gin, with excesses (age forty-one); from eight to ten pints of beer, and sometimes a pint of gin (age thirty-nine); from sixteen to twenty pints of beer and one glass of spirits (age fifty-four); described himself as a hard drinker of wines and spirits (age twenty-two); twelve pints of beer and eight glasses of spirits (age thirty-eight); ten or twelve pints of beer, and from a half to one pint of gin (age fifty-five); one pint of beer, with three-quarters of a pint of gin daily, with frequent excesses (age forty-five); one to two pints of beer and one pint of sherry (age fifty-three); one bottle of claret (age thirty-nine); one gallon of beer frequently (age thirty-three); beer very freely (age thirty-four); four pints of beer and much spirits (age thirty-nine); from three to four pints of beer, and from one to twelve glasses of rum (age fifty-four); seven pints of beer and seven glasses of spirits (age forty-one); drunk three times a week (age thirty-six); a confirmed drunkard (age thirty-three); immense quantities of whisky (age forty-five); twelve to fourteen pints of beer, and a variable amount of rum (age thirty-one); ten pints of beer and a pint and a half of rum (age forty-five); the largest consumer of beer—*never exceeded* twenty-six pints a day (age thirty-five); the largest consumer of spirits—took twenty to thirty glasses of gin daily (age thirty). Some of these patients are said to be 'gouty.' Only one total abstainer can be discovered."

The record is a striking one in its revelations. Not the least interesting part of it is the ages of the patients. The absence of high ages is noticeable. When we are asking the public to support the hospitals, as we very seriously do, it is only right to urge that hospitals shall make it clear to such patients as come to them suffering from one or other of the various forms of alcoholism that their diseases are largely self-induced. Patients who would resent a hint of that kind from any other quarter will often take it from a physician.

It is a matter, too, for serious consideration whether the large amount of money spent by hospitals on beer and

other stimulants, besides conveying wrong teaching to patients, might not be spent to more advantage in procuring other forms of food. The public, if asked to be less stinted in its gifts to hospitals, and indeed to give generously, has a fair right to ask that hospital money shall be administered wisely.

WE did rightly in not expressing too confident an opinion on the probable length of the session of the Council. Judging from the proportions of the first day's programme and the resurrection of the subject of preliminary education, it is quite possible that the Council may sit for a week, though to common and outside observers there never has been a season in which it would have seemed more proper for the Council either to forego its meeting or to resolutely confine itself to formal business and a two days' session. Nothing could be more quiet or unexciting than the opening of the address of the President, the only mischievous portion of it being that in which he informs his colleagues that for one session at least they may sit in peace without fear of distraction at the hands of either Government or medical reformers. Dr. STORRAR at least seems to have taken this seriously, and to have set himself to find out a subject admitting of endless debate and of a certain amount of harmless agreement amongst the members of the Council. Whenever the Council has nothing very definite to do, the subject of the Preliminary Examination of medical students is sure to turn up. Do all the bodies insist on a certificate of having passed such an examination prior to the commencement of medical education? What subjects should be included? Who should conduct the examination? Should medical examining bodies examine also in Arts, or should the examination in Arts be left entirely to the national educational bodies? Should Greek be included? Should it be compulsory or optional? How shall the Council define what it requires of students in the way of knowledge of elementary mechanics, of solids and fluids, meaning thereby mechanics, hydrostatics, pneumatics, and hydraulics? These are questions which the Council has debated since its creation. The historical sketch by Dr. STORRAR of the vicissitudes of such questions in the Council sounded more like the adverse evidence before the Select Committee of Parliament than the opening of a grave and practical discussion. There was something really ridiculous in the way he showed how the subject was constantly turning up, and never advancing to a satisfactory settlement, and we must confess there was something almost audacious, if such a quality could attach to so modest a man as Dr. STORRAR, in gravely taking up an afternoon in such retrospect, and starting the Council on a discussion which can have no other effect than to illustrate for the twentieth time its impotence and inefficiency. We are not differing from Dr. STORRAR in his lament over the unsatisfactory arrangements for testing the preliminary education of those wishing to become medical students. On the contrary, we largely agree with him, and we think that in his speech he threw light on this subject. His allusion to the action of the College of Surgeons, for example—which, while ostensibly committing its Preliminary Examinations to the College of Preceptors, retains the right of saying how many marks, or rather how few marks, shall be regarded as sufficient, and showing a disposition to be contented with a very modest number; this was a very serious matter. He was very effective too, in showing how much rivalry and jealousy there is among the bodies in Scotland in the matter of the Preliminary Examinations, and how even the Edinburgh University, under certain circumstances, accepts the examination in preliminary subjects of other bodies, such as the Edinburgh College of Physicians and Surgeons. But after allowing all this we cannot but admire the coolness, and even boldness, shown by Dr. STORRAR in initiating another discussion on Preliminary Examinations, seeing that he has been doing identically the same thing, with so little result, for exactly twenty-one years. Two full days have been occupied at the time of our writing over the mere proposal to refer the subject of Preliminary Examinations to a Committee, at a cost of £200 a day. Independent of this perennial proposal, there are several motions on the programme dealing with various questions of detail in regard to preliminary examinations, mostly by new members. It is not intelligible how members of the Medical Council, under existing circumstances, so vividly described by Mr. SIMON, can deliberately repeat fruitless discussions which have been the staple of the Council's work since its creation. If the main recommendations of the Council for the last twenty-one years, in favour of independent preliminary examinations, have been disregarded, is it to be thought that it can speak with any influence just now? It cannot do so, and the Council shows a sad want of dignity and self-respect in spending so much time and money over a subject on which it has already expended so much time. Dr. ANDREW WOOD even distinctly intimated the intention of the body he represents to defy and disobey the Council. Under these circumstances, and considering the fact that the Council is accused before Parliament of inefficiency, it will act with most credit to itself in despatching formal business only and separating. To continue deliberations which are so sure to be useless, which are so costly, and which are the mere repetition of discussions that have recurred at intervals of two or three years for twenty-one years, is to favour the advocates of medical reform with an argument for which they cannot be sufficiently grateful.

Annotations.

"Ne quid nimis."

INTERNATIONAL MEDICAL CONGRESS.

ALTHOUGH little or nothing has been noised abroad of the prospective arrangements for the meeting of the International Medical Congress in London in August, 1881, some preparatory steps have been taken. A subscription has been opened, and after an application made to some of the leading members of the profession, a goodly sum of money has been promised, sufficient to ensure that the Committee will not be hampered for lack of funds. Burlington House has been secured for the meetings of the Congress; and it is confidently anticipated that its reception will be in every way worthy of the profession in this country. The Executive Committee has nominated Sir W. Gull, Mr. Erichsen, and Dr. Matthews Duncan, as Presidents of the Medical, Surgical, and Obstetric Sections. These appointments will doubtless be a good deal canvassed, and, as must always be

the case where a selection has to be made from many worthy of the position and its honour, opinion will be somewhat divided as to the wisdom of the choice. While confessing that perhaps the selection is not in every case the best possible, we are confident that each section will have a president not only worthy of his position, but adding lustre to his chair. They are men of whom British physicians and surgeons may be proud; and we feel that it is needless for us to claim for them that support and sympathy from their fellows, which will be as essential to the success of the Congress as it will be spontaneous.

THE DANGER OF ESMARCH'S ELASTIC BANDAGE.

THE use of Esmarch's elastic bandage is one of the most serviceable of the modern improvements in operative surgery; by its means not only is loss of blood prevented, but many operations can now be conducted with a deliberation, and therefore a precision and skill, that was formerly unattainable. When Dr. Reid conceived the idea of utilising this bandage in the treatment of external aneurism, and showed by a very successful case that his idea was eminently practical, the field of usefulness of the elastic bandage was immensely widened. Nearly thirty cases of aneurism in which this treatment has been used have already been recorded, two-thirds of which have been successful; doubtless there have been many other unrecorded cases. Hitherto no ill results have been recorded, if we exclude Mr. Bryant's case, in which gangrene of the foot followed, but possibly was not caused by the use of the bandage. Dr. Robert F. Weir of New York, however, has had the misfortune to lose a patient while undergoing this treatment. The man was a negro, aged thirty-two, with a large popliteal aneurism completely filling the ham. The elastic bandage and tubing were applied in the usual manner, and after two hours and a half the tubing was removed and replaced by a Signoroni's tourniquet, this and the bandage being removed after another hour and fifty minutes. Two days later, as the aneurism was not consolidated, the treatment was repeated, the tubing being left on two hours and fifty minutes, the bandage alone four hours longer, and a Signoroni's tourniquet at the groin a further half hour. The next day the pulse at the wrist was found to be nearly absent and very weak and irregular in the femorals, although there were no other signs of shock, and in spite of careful stimulating treatment, he sank and died twenty-seven hours after the discontinuance of the compression. At the autopsy the aneurism and the artery beyond it were found filled with soft recent coagulum; the heart especially on the right side was found on microscopic examination to be "distinctly fatty." The risk of overstraining a weak heart has been noted and often commented on by surgeons as a drawback in the use of the elastic bandage, but we believe we are correct in stating that this is the only recorded instance in which this danger has been experienced. Dr. Weir rightly observes that it was a pity the bandage was retained on so long; for although it might not completely arrest the circulation, it yet allowed only a small quantity of blood to circulate in the limb. But this case suggests two other precautions which no doubt have been often taken, though not expressly noted. One is not to continue the bandage above the aneurism and interfere with the general blood pressure more than is actually necessary; if the bandage be put on up to the aneurism, and then the tubing be applied tightly round the limb immediately above the tumour, the desired condition of the aneurism and adjacent artery, full of stagnant blood, will be obtained; and the application of the bandage up the thigh for a popliteal aneurism is of no advantage, and only occasions additional risk from the greater stress it throws upon the heart. Then, again, the surgeon should carefully watch the pulse while carrying out this treatment, and at the first sign of heart distress or failure relax his pressure. The bandage is so constantly employed that it is only too easy to forget that in some cases it may be a source of danger. Some may be inclined to think that such a risk lessens the value of the bandage, but we think that it is derogatory to the intelligence of the profession to think so. The most perfect instrument requires intelligent using, and excellence in a remedy for therapeutic application can never compensate for a lack of knowledge as to its applicability. The history of surgery shows only too plainly that what ever has been and still is the great need, is not additions to our mechanical power or skill so much as the knowledge to enable us to use wisely the means already at our disposal. The best surgeons can do most with simplest means.

TEACHING AND EXAMINATIONS IN THE UNIVERSITY OF EDINBURGH.

A CORRESPONDENT, by way of showing the necessity for a one portal system, even as regards universities, points out that the appointment of assessors has not altered the case. He gives an instance, which he says was the common talk of students, in which an assessor in the University of Edinburgh, examining in the practice of physic, put a very proper and straightforward question—which was objected to by the examining Professor on the ground that that subject had not been discussed by him in the course of lectures which the student had attended. The Professor in question, the able lecturer on the Practice of Physic, does not, we believe, as a matter of fact, include the whole range of subjects in one year's course. He takes two years to complete what he has to say on the great theme. We can well understand that Dr. Grainger Stewart's conception of what a university course of lectures on the practice of medicine is such that it cannot be carried out in less than two years. But it seems to us a serious thing that a student might attend one of these courses—all, be it remembered, that is required either by the University of Edinburgh or the General Medical Council—and not hear from his teacher any account of a disease so important, say, as pneumonia. We cannot doubt that an assessor would feel in no way bound to confine himself to subjects treated of in the actual course of lectures attended by the candidate, and that there is an actual error on the part of our correspondent in thinking so. But we think it right to give so much publicity to his notion for the double purpose of pointing out how much even a well-ordered university like that of Edinburgh has to gain from the establishment of a one portal system, which would bring extraneous tests to its work, and of suggesting that one course of lectures should at least cover all that is vital and important in the practice of physic.

SUPPOSED POISONING BY DISEASED HAM.

THE Sheffield papers report the occurrence of a number of cases of supposed poisoning from eating diseased ham, in which upwards of a score of persons have suffered from more or less acute symptoms, and four or five have died. The outbreak is traced to some ham used at a refreshment department at Welbeck, the seat of the Duke of Portland, on the occasion of a sale there. The evidence is, however, of a very contradictory nature. According to some there have been cases amongst persons who had not been at Welbeck, nor partaken of any of the refreshments supplied there. But the majority of the cases are alleged to be traceable to this source, in some cases portions of the ham having been taken away, and when used by others producing severe symptoms. The symptoms—severe colic, diarrhœa, and vomiting—suggested to one medical man the view that it was an outbreak of English cholera. Others have ascribed the disease

to trichinosis, a view not supported by examination of the meat, nor, we think, by the published accounts of the symptoms. It would seem far more probable that the form of poisoning was that which has been much more frequently observed in Germany, arising from some peculiar mode of partial decomposition of the meat; the nature of the poison, the so-called Wurstgift or sausage poison, being as yet unknown. But in the absence of further and more accurate details, we must suspend judgment. The occurrence certainly deserves thorough investigation, and we learn that the Local Government Board has directed Dr. Ballard to visit the locality and make inquiry concerning these cases.

THE PRELIMINARY SCIENTIFIC EXAMINATION.

THE Senate of the University of London, on the receipt of the recommendation from Convocation that the Preliminary Scientific and First M.B. Examinations should be held twice annually, appointed a Sub-Committee to consider the question. This Sub-Committee has grappled with the question of the Preliminary Scientific Examination, which, it recommends, shall be held twice a year. At the same time, it is found necessary to do away with the Honours Examination as it exists at present, and the Committee therefore recommend that honours shall be awarded "upon the aggregate of the marks obtained at the Pass Examination in like manner as at the Matriculation Examination."

The holding of the Preliminary Scientific Examination twice annually will prove a great boon to students, and will encourage a certain number to pursue their career in the University, instead of throwing it up in despair at the first failure, as is now too often the case. The alteration in the Honours Examination will not, probably, have any material effect upon the quality of the work done, although science teachers may urge that the abolition of special honours will take away from students a valuable spur to the pursuit of any special branches of science for which they may have evinced a peculiar aptitude.

It is not necessary to point out that the doubling of the Preliminary Scientific Examination without at the same time doubling the First M.B. Examination, is not of much use in shortening the Medical Curriculum of university students, for it is evident (as was pointed out in the Report of Convocation) that candidates who might pass the Preliminary Scientific Examination in the winter would still be unable to pass the First M.B. Examination until eighteen months afterwards. However, the Senate will doubtless see their way in time to carrying out the suggestion of Convocation in its entirety. The holding of the examinations more frequently will have the effect of popularising the University among the rank and file of the profession, for a reference to the "pass and pluck" list of the College of Surgeons will show that the percentage of failures in Lincoln's-inn-fields is fully as great as in Burlington-gardens, and that the main obstacle at the University is the loss of an entire year, which failure at either of the examinations has hitherto entailed.

Thus the total failures at the First M.B. Examination during the fourteen years 1863-76 amounted to 32·7 per cent.; and the failures at the Second M.B. Examination during the fourteen years 1865-78 amounted to 18 per cent.; or, in other words, out of every 100 men who presented themselves for the First M.B. 68 passed, and of these 68 12 failed to pass the Second M.B., leaving 56 per cent. who presumably took this degree without failure at either examination. At the College of Surgeons, 32 per cent. fail at the Primary Examination, and nearly 40 per cent. fail at the Pass-examination; or, in other words, out of every 100 men who present themselves for the Primary, 68 pass, and of these 68, 27 fail at the Final, leaving only 41 per cent. who take the diploma without failure of any kind. Judging then by the mere percentage of failures, the professional examinations of the College of Surgeons would appear to be more severe than those at the University of London. This fact shows how fallacious may be inferences drawn from percentage calculations.

WOOLSORTER'S DISEASE AT BRADFORD.

SOME interesting facts have recently been brought to light with regard to the woolsorter's disease at Bradford, which are strongly confirmatory of the previous evidence that this disease is identical with anthrax or splenic fever of the lower animals. Some weeks ago, during the time when several deaths occurred in the neighbourhood of Bradford, one or two cases occurred at Harden Mills, one at least being fatal. A week or two later a cow, which was grazing in a field adjoining the factory, died rather suddenly, and it was at the time suggested that it was a case of splenic fever, but the result of the examination was doubtful. Since that time two sheep, grazing in the same field, have also died rather suddenly, and last week another cow was taken ill and died in four hours. A post-mortem examination made by Dr. Bell of Bradford, Dr. Roberts of Keighley, and Mr. Collins, veterinary surgeon, of Bradford, showed that the animal had died of splenic fever, and portions of the viscera having been forwarded to Dr. Greenfield, at the Brown Institution, he has confirmed this diagnosis. It appears that the soap water used for washing the wool in the factory is conducted direct into the fields, and there distributed by means of trenches cut in the soil. The cows drink the water readily. There seems to be little doubt that the disease is really derived from this source, and this is not only very important as evidence of the infectious character of the wool, but is conclusive proof that the washing is not conducted at a sufficiently high temperature to act as a disinfectant. We learn that two other cows have since died in the same field, with similar symptoms and post-mortem appearances. One or two more cases of the disease have occurred in woolsorters, in one case of malignant pustule the local serum proved to be infectious on inoculation, but the man recovered. There seems every reason to believe that more stringent legislation will be the only means of checking the disease, the recent outcry having been apparently ineffectual in enforcing preventive measures.

DEATHS IN PRISON.

WHEN the dietaries under the New Prison Act of 1877 came into operation, in May, 1878, we pointed out that the dietaries for short-term prisoners were much too severe, and whilst finding no fault with the theoretical construction of the dietaries for prisoners undergoing sentences of more than two months, we stated our opinion that the effect of the new scale on the health of the prisoners should be carefully watched. The experiment has been made; and, apparently, in the case of the Coldbath Fields Prison its effect on the health of the prisoners has not been carefully watched, for the result has been an unparalleled mortality among the short-termed prisoners. Soon after the introduction of the new dietaries a great scandal was occasioned by the death of the prisoner Nolan under circumstances which drew forth a severe censure on the prison officials from the coroner's jury who inquired into the case. So strongly was the public feeling roused on this occasion that Government felt it their duty to institute an inquiry as to the circumstances of the death, and the President of the Royal College of Physicians, Dr. Bristowe, and Dr. Guy were appointed to draw up a report. As, however, we pointed out at the time, the report of these gentlemen was very far from satisfactory. They acquitted the officials of all blame in the matter from the *ex parte* statement of these gentlemen. They reported that the cells were well ventilated and sufficiently warmed,

though from their report we do not gather that they tested this point themselves. Nor do they appear to have watched the effect of the dietaries on other prisoners undergoing sentence during the period of their inquiry. We commented severely on the shortcomings of the report at the time of its issue; and if anything were wanted to give point to that criticism, the continued excessive mortality among the prisoners of the Cold Bath Fields Prison has supplied it. The blame, however, cannot altogether be placed on the committee, although they performed their duties in a somewhat perfunctory manner, but on those who were responsible for its construction. An old Prison official, whose inclination and ideas would be controlled by past associations, and two physicians engaged in purely consulting practice, were certainly not proper persons to entrust such inquiry to. The committee ought, as we pointed out at the time, to have consisted of those persons specially skilled in such inquiries. Should another inquiry take place, which we believe likely to be the case, we should advise that the committee should be selected from those members of the profession who have devoted themselves to questions of hygiene, from professed physiologists, and from those who have paid considerable attention to the question of diet and the construction of dietaries. The inquiry ought to be extended over several months, and each prisoner admitted should be carefully examined on entry, his past history recorded, and daily observations made as to the physiological and pathological effect that low diet, seclusion, and hard labour had on prisoners drawn from various grades of society. Such a report would not only be a valuable contribution to medical literature, but would satisfy the public mind that the whole question of the hygienic and dietetic management of our prisons had received the attention of those best qualified to give advice in the matter.

THE THERMIC EFFECTS OF CEREBRAL LESIONS.

THE depression of temperature which follows acute cerebral lesions in man, occurs also in other animals under the same conditions. M. Couty, experimenting upon monkeys at Rio, has found that, after gentle anæsthesia, the exposure of the sides of the brain, followed by stimulation of the fronto-parietal zone, suffices to cause a considerable depression of the temperature of the body. The fall is at first slow, then more rapid, and attains its maximum in from two to five hours. It may afterwards fall and even give place to a rise, but in most of the experiments the animal died during the period of depression. At the moment of death, which was due commonly to arrest of the respiratory and cardiac movements, instead of 37·9° to 39° C., the ordinary temperature of the animal, the rectal temperature was from 34° to 29°, and in two cases 26° to 25·4°. Thus the depression may occur as a result of slight injuries to the brain even in an animal comparatively high in the scale, and a very low temperature, thus produced, is not absolutely incompatible with life. The effect, so marked in monkeys, is scarcely to be observed in dogs, which commonly survive the initial disturbances, even if the lesion is considerable. When, however, death occurs during the initial period it is always preceded by the depression of temperature. At the commencement of the fall all the functions of the animal appear to be unaffected—the creature is merely weak and apathetic. The circulation is then altered; the pulse ceases to be perceptible, and any spontaneous movement seems impossible. It still moves, however, if excited to do so, and can walk and defend itself. Later, this susceptibility disappears, often rapidly, and external stimulation only causes irregular reflex movements. Strong faradisation of the sciatic nerve is necessary to cause movements of all four limbs, and ultimately even this fails. Then the respiratory and cardiac movements stop. During these phenomena the changes in the cortical excitability were carefully studied. It was found to be scarcely, or not at all, lessened during several degrees of depression of temperature, even when the animals were comatose and without spontaneous movements, and the excitability continued in characteristic form, although lessened in degree, even when the pulse could not be felt and the temperature of the brain was only 34° to 30° C. Still later, however, the excitability became limited to a small number of points, and much stronger currents caused only movements which were less numerous and complicated. Only when the reflex action of the spinal cord disappears entirely does faradisation cease to affect the cortex. In one case, however, even two minutes after the respiratory movements ceased, there was still an excitable point on the brain. This correspondence in the excitability of the brain with that of the cord, and the persistence of the former after other cerebral functions are lost, are remarkable facts.

PROSECUTION UNDER THE APOTHECARIES ACT.

THE *North Cheshire Herald* gives full particulars of the prosecution of Mr. William Lewis Smith of Hyde, formerly with Mr. Beecroft, for practising as an apothecary without any evidence of qualification of a medical or even a pharmaceutical character. Mr. Scott, of the Common Law Bar, London, instructed by Mr. Pridham of Bedford-row, London, and Mr. J. H. Brooks of Hyde, were for the plaintiffs. Mr. Smith would seem to have been a Sunday school teacher and an ardent worker in a mission-room in the town, and even a charitable and kindly man. But there was ample evidence of his attending many cases, and even grave ones, not a few of which terminated fatally. In these he gave a sort of certificate of death. He charged, too—formerly "for attendance and medicine," but latterly his bills were made out "for time and trouble at your request, and for medicine supplied." The judge directed that if the jury thought that in these cases defendant inquired into the symptoms, felt the pulse, examined the tongue, and prescribed medicines, their verdict must be for the plaintiffs. After a short consultation, they came to a verdict of £20 for the plaintiffs. The verdict is a most proper one, and so good a man as Mr. Smith should see that he was acting a false part in Hyde in undertaking grave medical duties without any medical qualification.

THE ST. PETERSBURG INSTITUTE OF ANATOMY.

WITH the termination of the session 1879-80, the Institute of Anatomy attached to the University of St. Petersburg has completed the twenty-fifth year of its existence. The institute was established in 1855, and placed under the special direction of Professor Gruber. Since its foundation 6265 second-course students have studied practical anatomy there, and, exceptionally, several third-course students. Moreover, 202 private individuals have attended the institute, also numerous aspirants to military surgeoncies, candidates for the diploma of doctor of medicine, and officers of health, making a grand total of 10,251.

The number of bodies placed at the command of the institute during the twenty-five years amounted to 20,338, of which 13,985 were subjected to dissection, and the remainder were distributed to other chairs of the Academy, also for the use of the students in the more advanced classes of medicine for instruction in practical surgery.

Professor Gruber and his disciples have published within the period under consideration 422 works (*brochures*) on anatomy (391 having been written by the professor himself), and the museum belonging to the institute, and founded by Professor Gruber, contains 0000 specimens of different skeletons.

KOLPO-CYSTOTOMY BY GALVANO-CAUTERY.

UNDER this long and obscuring name an operation for the relief of chronic cystitis is rather widely practised in America. At present the conservative spirit of British surgery has been too strong to allow of its general adoption in this country, although there are cases in which it is both justifiable and very successful. The object aimed at is to allow the urine to escape from the bladder into the vagina at once on its escaping from the ureters, and thus give the inflamed viscus entire rest while the irritating secretion from its own walls can in like manner flow away at once. It is obvious that an operation attended with such disagreeable and distressing results as the constant flow of urine and muco-pus through the vagina should not be lightly undertaken, and we hope Dr. Byrne of Brooklyn is not expressing the general opinion of American surgeons and gynæcologists when he states, or rather implies, that the operation is required in all cases of well-marked chronic cystitis. Dr. Byrne states that he has "never seen permanent, and seldom even temporary, relief follow the use of acid, alkaline, anodyne, or other vesical injections in the treatment of well-marked chronic cystitis." Unless "well-marked cases of chronic cystitis" differ a good deal on the two sides of the Atlantic, we cannot help thinking that the reputation of a sound and justifiable surgical proceeding is being endangered by too frequent and indiscriminate performance. The operation is performed with scissors by Dr. Emmet, and Dr. Boreman excises a large circular piece "the size of a silver dollar"; but Dr. Byrne has recently described in the "Gynæcological Transactions" a method of operating with the galvanic cautery, which seems to be an improvement on either method, for, without much destruction of tissue, he secures a wound not very liable to cicatrise. He uses an ingenious "vesico-vaginal guide forceps," one blade of which, deeply grooved on its under surface, is passed into the bladder through the urethra, and is pressed into a fenestrum in the flat vaginal blade. The heated platinum knife is then made to cut its way through into the groove of the vesical blade. The wound left is about an inch in length, and contracts to one-half in four or six weeks.

THE GRANT COLLEGE MEDICAL SOCIETY.

THE Grant College Medical Society, Bombay, has been holding a series of extraordinary meetings for the purpose of considering the regulation of the medical profession in that city and island. At a meeting held on the 23rd March, resolutions were passed to the effect that the Government be moved to pass a Medical Registration Act for Bombay similar to that in force in England, and that a committee be formed to examine the English Act and to see how far the assimilation may be carried. At a subsequent meeting the report of the committee was brought up, and the following recommendations of the committee, with certain modifications, were adopted:—

"1. That the Government be asked to introduce an Act into Bombay similar in its working to that in force in England, entitled 'An Act to regulate the Qualifications of Practitioners in Medicine and Surgery.'

"2. That the committee is respectfully of opinion that the following provisions, with certain modifications of that Act, are applicable to the medical profession in Bombay, and are calculated to advance its welfare and secure its position—viz., those contained in Clauses 1, 10, 14, 15, 26, 27, 29, 30, 31, 32, 34, 35, 36, 37, 39, 40, and 45, which provide for the formation of a register of qualified practitioners, and define the privileges of those so registered.

"3. That the committee is respectfully of opinion that a clause somewhat similar in its action to that of 17 should be included in the Act, which would provide for the registration of certain medical practitioners in Bombay of long standing, who, though not holding diplomas, may be considered qualified to practise medicine and surgery."

At the meeting in which these recommendations were adopted, Clause 3 of the Medical Act was added to the clauses mentioned in the second recommendation. A resolution was also adopted, on the motion of Dr. Blanc, seconded by Mr. Succaram, that the President of the Society (Mr. J. C. Lisboa), Dr. Cook, as the Principal of the College, and the secretary (Dr. C. F. Khorg), should address the Government on the subject, and request the favour of an interview with His Excellency the Governor, in order to lay the matter before him.

THE RUSSIAN RED-CROSS SOCIETY.

AT a meeting of the Committee of the Russian Red-Cross Society, held in St. Petersburg on the 17th ult., his Imperial Highness the Grand Duke Serge Alexandrovitch in the chair, a report of the proceedings of the Society for the year 1879 was read and adopted. From this report it would appear that the activity of the Society had been considerably extended. In addition to the assistance given to the wounded and to the widows of soldiers killed in the late war, it had been possible to afford help to the victims in several public calamities, as, for example, from the great fires at Orenburg and from the prevalence of diphtheria in many districts. It was proposed during that meeting to convert the Mario Asylum, established temporarily for the children of officers killed in the late war, or who had died of wounds received in its course, into a permanent institution, and to this end 22,500 roubles had been subscribed.

EXPLOSIONS OF GAS.

THE explosion near Tottenham-court-road should direct attention to the peculiar properties of the body formed by the admixture of gas with atmospheric air in certain not very well-defined proportions. A series of experiments made some years ago with Davy lamps brought to light certain strange features in the behaviour of an atmosphere into which common coal gas was gradually introduced. In the case of this deplorable accident the gas was found to have entered mains which already contained air, and the process being somewhat slowly conducted, it seems probable that the properties of the mixture were such as to render it highly explosive throughout a considerable length of pipe at the time when the light was accidentally or carelessly applied to a branch pipe. The inquiry which will be prosecuted should take the form of a scientific attempt to discover, as precisely as may be practicable, the conditions of the admixture, and it should be carried far enough to ascertain if there is not some better mode of introducing coal gas to closed vessels of large size than that which is commonly adopted. In the case of a small pipe or vessel it may suffice to allow the explosive mixture to escape in due course by the ordinary outlets until the contents of the pipes or chambers are wholly gas; but in the case of large and particularly long services special precautions are necessary, and we doubt whether the means commonly taken are sufficient and effective.

ASTROLOGICAL PATHOLOGY.

IT appears that the planets Jupiter, Saturn, Uranus, and Neptune will be in perihelion simultaneously in the fall of the year. This, we are told, has not happened before for more than 1800 years. Moreover, the "star of Bethlehem" will again make its appearance in the eastern horizon in the month of August. These celestial events will mark the completion of one great cycle of 1800 years and the beginning of another; and we are warned that the first decennium of this coming cycle will be ushered in by disastrous outbreaks of pestilence—a veritable saturnalia of death. We are to anticipate, it seems, a recurrence of the terrible pestilences which concurred with the earlier

years of the Christian era, and of which the recent irruptions of plague are alleged to be the forerunners. The astrological forecaster is an Irishman, and it is gratifying to learn that Ireland will probably suffer less from the evils presaged by this portentous conjunction of planets than other lands. Indeed, he anticipates that, knowing this, strangers will flock for safety to Ireland, and by the encouragement thus given to the commerce of the island help to raise her out of the unfortunate slough of distress in which she now finds herself.

THE MEDICAL COUNCIL AND THE PRESENT SUSPENSE IN MEDICAL LEGISLATION.

WE are very glad to see that so important a member of the Council as Mr. Simon has given notice of a motion to urge the Council to make representations to the new Government of the unsatisfactory state in which the subject of medical legislation was left at the dissolution of Parliament. The duty of the Council is most clear. All medical bodies, including itself, are hindered and semi-paralysed by thoughts of change. Everybody feels that more or less change is inevitable, and that it ought not to be delayed longer than next session. The Council will get far more credit by an earnest representation of this kind than by wasting days over the history of discussions on preliminary examinations.

POISONING BY TINCTURE OF ARNICA.

WE hear from Italy of another fatal case of poisoning by tincture of arnica. A man, apparently in perfect health, drank a quantity of tincture of arnica estimated at from two ounces to two ounces and a half. He immediately complained of a sensation of burning at the stomach. Bicarbonate of soda was given, and afterwards some aromatic tincture. By these his sufferings were relieved for some hours, but the pain subsequently returned, and he died thirty-six hours after having taken the poison. This case suggested some experiments as to the irritating character of arnica. An ounce of tincture of arnica was evaporated and yielded an extract, a little of which spread over the skin caused a papular eruption. A larger quantity produced vesication, just as does cantharides. The residue found in the stomach of the poisoned man, evaporated, and then applied to the skin, produced effects exactly the same as those caused by the evaporated tincture.

THE EFFECT ON THE HEART OF PRECEDING INHIBITION.

DR. BROWN-SÉQUARD has made a large number of experiments, upon rabbits and young cats, on the effect of inhibition on the action of the heart. After the introduction of a tube into the trachea he insufflated the lungs in two rabbits at the same time. He opened the thorax, divided the pericardium, and ascertained the frequency and force of the heart's action. In one of the animals, that in which the heart was beating with least force, he galvanised the right vagus or both vagus nerves. Usually, after a variable time, the heart stopped. (Faradisation of the vagus does not, in the rabbit, always arrest the heart.) When it recommenced to beat, he divided the two great arterial trunks which spring from it, in both animals, and then observed the action of the two hearts. That which had been inhibited always contracted much more frequently than that which had not. In five rabbits, for instance, in which there had been no inhibition, 1869 contractions were subsequently observed; and in five others which had been inhibited, the number of contractions was 3240. Moreover, the contractions were much stronger in the hearts which had been inhibited than in the others. In one of the latter, during half the time of the observation, the contractions were confined to the right ventricle. In seven or eight minutes the hearts ceased to beat, but in two cases the contractions continued longer in the hearts which had been inhibited, than in those which had not. In three others the cessation in the two conditions was simultaneous. In the cats the same difference was observed. The contractions, after inhibition, were 292, as compared with 141 without inhibition. Should this effect be ascribed to the better nourishment of the heart during the period of nutrition? Dr. Brown-Séquard believes not, but promises another communication on the subject.

FRACTURE OF THE NASAL BONES.

A FEW weeks ago we drew attention in these columns to a paper by Dr. Lewis D. Mason, published in the annals of the Anatomical and Surgical Society of Brooklyn, in which he described a new plan of treating cases of fracture of the nasal bones with depression. We then expressed surprise that Dr. Mason had published this paper before he had had an opportunity of trying his method in actual practice. In a later number of the same journal we find the record of a case of compound comminuted fracture of the nasal bones in a boy aged fourteen, which was placed under the care of Dr. Mason. There was considerable flattening of the arch of the nose with lateral displacement, which was corrected as far as possible by manipulation, and an ordinary surgical needle ground to a drill point was then passed through the lines of fracture, and the fragments supported upon it; a piece of thin rubber was stretched over the nasal arch and needle, and the ends of the latter protected by small pieces of cork. The needle was withdrawn on the eleventh day; its presence caused no pain or discomfort. The result, as shown in photographs and described in the paper, is excellent, the contour of the nose being thoroughly restored.

ST. THOMAS'S HOSPITAL.

AN appeal has been made from St. Thomas's Hospital to the Lambeth Vestry for a reduction of the assessment, on the ground of the unsatisfactory state of the hospital's funds and of the charitable work it performs, tending to reduce the poor-rates. The appeal was referred to the churchwardens and overseers, but in the discussion upon it the proposed reception of paying patients into the hospital, with a view of making a profit from them, was referred to in connexion with the appeal, and as adverse to it.

HOSPITAL SUNDAY FUND.

WE have especial pleasure in announcing that, up to the time of going to press with the present issue of THE LANCET, the Hospital Sunday Fund amounts to £29,500, being nearly £5000 more than the sum subscribed at the corresponding period last year.

THE Committee appointed by the Medical Society of London to investigate the question of poisoning by arsenical compounds contained in wall-papers, paints, articles of dress, &c., presented their report towards the close of last session; but they intend still to pursue their inquiries, and have issued circulars to members of the profession, inviting records of cases in which poisoning from these sources has been proved. Mr. Malcolm Morris is secretary to the committee.

A STRIKING instance of the advantages of a Medical Coroner occurred lately in North Wales. Some workmen, digging in an orchard near Abergele, came on some ware containing several bones that proved to be human bones. Great alarm and evil surmises gathered round the discovery, and the good name of the Principality seemed imperilled till Dr. Pierce, the coroner for Denbigh, investigated the facts, and put a few witnesses through an informal examination,

which showed that the bones had been handled and used as by an anatomical student, and that, "within the memory of man," a medical student had lived there.

THE

GENERAL COUNCIL OF MEDICAL EDUCATION & REGISTRATION.

Session 1880.

Wednesday, July 7th.

THE General Medical Council met, in its thirtieth session, on Wednesday last, under the presidency of Dr. Acland.

Dr. Thomas Banks was introduced by Dr. Haughton as a representative of the Queen's University of Ireland, in the room of the late Sir D. Corrigan.

The PRESIDENT, in opening the session, referred to communications which had been received from the licensing bodies in reference to education, and the reports of the branch councils upon them. He then said:—"Upon these documents, which have already been unofficially circulated for the convenience of the Council, several notices of motion have been framed. More than one of these notices directly open up the question, on which so much discussion has been raised of late years, of what are the subjects which should be included in preliminary examinations, and, therefore, what should be taught in the schools—as, for instance, physics, geology, zoology, and other subjects. And the further and really more important question is asked, How they are taught, and what is the standard of examination? The Executive Committee reports concerning seventy-two Examining Boards which the Council recognises as giving certificates of proficiency in general education, that they satisfy 'the requirements of the Council with great uniformity.' They conform, that is to say, with respect to the subjects of examination, but how far they are uniform in respect to the answers which may be expected the committee have at present no means of judging. It will be observed that members of the Council are of opinion that notwithstanding the great progress which is known to have been made in the means of educating students, and partly in consequence of it, the extent and quality of the general education given to them needs reconsideration. It will be proposed, therefore, by Dr. Storrar, that the whole subject be referred to a committee. Meanwhile it may be well to observe at once, in favour of this course, that since the time when the Council first laid down the general arrangements which it would recommend in respect both of general education and examination, not only has the subject of general education, as conducted in the higher schools, been reported upon by three Royal Commissions—viz., by Lord Clarendon's in 1864, Lord Taunton's in 1868, and the Duke of Devonshire's in 1874—but that, without doubt, great improvements have taken place in secondary schools and in the school books which are used in them. But still questions of great difficulty remained unanswered; for instance, it is still a matter of debate in the old universities whether Greek shall be a compulsory subject for the Bachelor of Arts degree, and whether those who have degrees in natural science shall have had the same general education as other graduates. And it must be admitted that scientific men are by no means agreed on these points. When this Council has reconsidered its own requirements the schools will, without doubt, know how to meet them. Meanwhile motions will be brought before you, both by Professor Haughton and Dr. Leet, to the effect that Greek be made compulsory on all medical students, so that the amount and character of linguistic studies and examinations, as well as the extent of scientific subjects, proposed for students prior to their professional studies, is again raised. And I must not fail to mention that, whereas on July 17th, 1879, the Council passed, in regard to the subject of elementary mechanics, the following resolution:—'That the subject of "Elementary Mechanics of Solids and Fluids—meaning thereby Mechanics, Hydrostatics, Pneumatics, and Hydraulics"—be no longer recommended by the Council as an optional subject of preliminary education, but be recommended as one of the subjects 'without a knowledge of which no candidate should be allowed to obtain a qualification entitling him to be registered,' it being understood that the examination in this branch of knowledge may be passed either as preliminary or as first professional, and that it be referred to the Executive Committee to amend to this effect Sub-section 6 of Section 4, and Sub-section 1 of Section 23, of the edition for 1879 of the Council's standing recommendations. The Executive Committee, after discussions thereon at three successive meetings, came, on March 18th, 1880, to the following conclusion:—That the Executive Committee, having fully considered this resolution in all its bearings, finds that there are such difficulties connected with carrying it into effect, that it deems it right to refer it back to the General Council for reconsideration. The subject of professional studies and examinations will again be specifically brought before the Council. Memorials were laid before you last year suggesting that certain special modes of study should be made compulsory in respect of ophthalmology and gynæcology. You directed that the memorials should be forwarded to all the licensing bodies for their observations. The report from the several bodies will be laid before you, with a report thereon from a Committee specially appointed by the Council, consisting of Dr. Humphry, Dr. Andrew Wood, Dr. Aquilla Smith, Mr. Simon, and Mr. Teale. A further communication of a similar kind on the subject of mental diseases, forwarded on August 4th, 1879, from the Medico-Psychological Association, will be laid before you. The question will thus be re-opened whether it is possible with advantage to the solid acquirements of the student to add more details to those already required in the four years of professional study—or whether more years are, as in some other countries, to be demanded. It remains only as my privilege to add, that which the Council will be pleased to hear, that no discussions on Parliamentary Bills need this year distract them from their appointed and congenial work of superintending the Studies and Examinations that bear on the Profession of Medicine, and of conferring with the great institutions of the nation that undertake the duty of conducting them. Last year there were three Bills before Parliament dealing with these and other subjects. The Government had thought it well to refer these Bills to a Committee of the House of Commons for report, as a means of affording to those who desire to support any particular views on them to express their opinions. The Committee were unable to report either last year, or this year before the dissolution of Parliament. No Bills of this kind are at present in either House, and the Committee is accordingly not reappointed. On the 27th of May the Vice-President of the Privy Council, in reply to a question put to him, stated that during the coming recess the whole question would be considered by the Government. Meanwhile the Council are steadily pursuing the work which Parliament assigned to them, and on which they have been so long engaged. This increases every year in interest and importance. It increases in interest with the rapid advance of purely scientific biological knowledge, and its relations to the prevention and the treatment of disease. It increases in importance, because this very progress—this mass of daily advancing knowledge—makes us all feel the accumulated force of the pregnant words of our old Greek master, Ἡείρα σφαλερὴ κρίσις χαλεπή. They only who take a superficial view of the present condition of the science and of the practice of medicine think it a light task to say what portions of each are necessary for our younger students—how they should be taught, and how tested. Probably there is no medical institution that is not ready to say that in these days it has learnt much—perhaps not one will aver, it has not something yet to learn. We, too, whether sent hither by a University or Corporation or by the Crown, feel each year the benefit and necessity of that interchange of thought and that united action for the common work of our Profession and of the Nation for which the Council was called into existence."

The Business Committee was then appointed, consisting of Dr. A. Wood (chairman), Dr. A. Smith, Dr. Leet, Dr. Haldane, and Dr. Pyle. The Finance Committee was also appointed, consisting of Dr. Quain (chairman), Dr. Pitman, Dr. A. Smith, and Dr. Scott-Orr.

A communication from the Medico-Psychological Association, recommending that mental diseases be made the sub-

ject of examination for all degrees and licences to practise medicine, was read.

Dr. QUAIN said that the Council could not insist upon the introduction of mental diseases as a subject of examination. He moved that the letter be entered upon the minutes and communicated to the licensing bodies.

Mr. TURNER seconded the motion.

Sir W. GULL and other members suggested that the communication of the letter of the Medico-Psychological Association would amount to a sanction of the proposal, which, it was urged, the Council was not prepared to give.

Dr. HAUGHTON said the subject had several times been brought before the University of Dublin, but the proposal had never been adopted.

Dr. WOOD objected to overloading the medical curriculum with the subject of mental diseases—a subject which ought to be studied after the licence or degree was granted. He moved, as an amendment, that the letter be received and acknowledged, and that the Association be informed that the Council deemed it inexpedient to ask the licensing bodies to make mental diseases the subject of a separate examination.

Dr. BANKS said that the Queen's University in Ireland had had the subject before it, and had come to the conclusion that it could not be introduced into the curriculum without extending the period, which it was not prepared to do.

Sir W. GULL seconded Dr. Wood's amendment.

Dr. HUMPHRY said that mental diseases already formed the subject of medical teaching in the medical schools.

Mr. TURNER supported Dr. Quain's motion, and said he thought it was due to the Association to give the licensing bodies the information which it desired to communicate to them.

After some further discussion, the amendment was adopted by a large majority, and was also carried as a substantive motion.

A statement was received from the Army Medical Department showing the degrees, diplomas, and licences of the candidates for commissions in the medical department of the army who on the 8th of December and on the 9th of February last presented themselves for examination.

Dr. HUMPHRY called attention to the small number of rejections at the examinations, contrasting the result with that which, he said, was formerly a matter of opprobrium, and when the rejections were extremely numerous. He thought that the Council might take some credit for the change that had been brought about. At all events, it had taken place during the existence of the Council.

Sir J. PAGET also alluded to the great improvement that had taken place in the results of the examinations of the different examining boards. Nothing, he said, could be more lamentable than the results obtained some years ago by the examinations of the Army Board.

A table was presented, showing results of professional examinations for degrees, diplomas, and licences granted in 1879 by the bodies named in Schedule (A) of the Medical Act. The table, with certain alterations, was ordered to be entered on the minutes.

Certain tabular returns were received from examining bodies showing how far their regulations and practice in regard to the seventy-two examinations at present recognised by the Council are such as to satisfy its requirements in regard to preliminary education.

A letter was read from the Royal College of Surgeons in Ireland communicating a resolution adopted by that body to the effect: "That the regulations of the General Medical Council respecting the passing by students of 'the preliminary examination' prior to attendance on lectures be adopted by the Council of this College, and that exceptions to this rule be referred to the Branch Council for Ireland."

Dr. WOOD, who characterised the communication as a very satisfactory one, moved that it be entered on the minutes, which was agreed to.

Mr. SIMON called attention to a passage in the communication from the College of Surgeons in Ireland expressing their "regret that the General Medical Council does not take similar strict action with regard to such other medical authorities as are not acting in accordance with the recommendations of the General Medical Council," and asked for an explanation.

Mr. MACNAMARA said it was understood that there were other bodies that had allowed students to commence their medical education before passing a preliminary examination; and the Council had never taken action with regard to those bodies as it had done with reference to the College of Surgeons in Ireland. He did not desire to name the bodies, but the representatives present would know whether their particular bodies had complied with the requirements of the Council.

Dr. STORRAR called attention to the reports of the Branch Councils on the answers from the medical licensing bodies in regard to the preliminary education of medical students; and moved: "That the recommendations of the General Council for preliminary education and examination be referred to a committee, to consider and report as soon as possible whether any, and, if any, what changes may with advantage be made in them." He said that at the last meeting of the Council the subject of education was crowded out by other subjects. A great change had taken place since then, the Government of the country had passed into other hands, and it was not certain whether the present Government contemplated medical legislation at present or in future. What were the Council to do under the circumstances? Ought they to sit still with folded hands, and cease to persevere in the course they had pursued for more than twenty-one years? His belief was that they ought not to fail in their duty, even if the instrument they possessed should prove ineffectual. They ought to persevere until the instrument broke, and Government would be compelled to see that they must help them out of their difficulty. He proposed to confine his remarks to preliminary examination, and to call attention to a resolution passed by the English Branch Council: "That it is desirable that the examinations in general education be left to the universities and such other bodies engaged in general education and examination as may from time to time be approved by this Council, and that it be delegated to the Executive Committtee to communicate with the licensing bodies on the subject." Dr. Storrar then gave an historical sketch of the various steps taken by the Council in regard to preliminary education, and the resolutions passed on the subject. He referred especially to a resolution passed in 1857 to the effect that no one should be allowed to enter the medical profession who did not possess an education in Arts equal to that of the national educational bodies (the universities), and to subsequent resolutions recommending the appointment of examiners in Arts in connexion with the licensing bodies, which he considered inconsistent with the position at first taken up by the Council. He complained that no effort had been made to restrict preliminary examination to the national bodies, and stated that in 1879 the number of medical students passed in preliminary education by the national bodies was 252, and the number passed by the licensing bodies or under the control of those bodies was 699. He regretted the position taken by the College of Surgeons of England, whose Arts examinations were conducted by the College of Preceptors. The College of Physicians had given up Arts examinations for fifteen years. The Apothecaries' Societies declined to change its system. In Scotland, out of 517 students on the register, 27 only passed the Arts examinations of the national educational bodies; and 490 passed either the special medical examinations at the universities or the special Arts examinations of the corporations, many of which were rivals to each other. In the examinations of the Colleges of Physicians and Surgeons in Edinburgh, the student who succeeded in certain subjects and failed in others could have the former recorded in his favour, and come up again for the latter—a piecemeal system of examination, which, he said, would be utterly repudiated in England. Dr. STORRAR then alluded to and criticised the arrangements of the Faculty of Physicians and Surgeons of Glasgow; and afterwards passed to the consideration of the examination in the Queen's University in Ireland, as to which he said it appeared that that body still permitted students to enter upon their medical studies without passing an examination in Arts. He asked whether the result originally contemplated by the Council had been obtained. His own impression was that they began in an age of gold and were at present in an age of lead. The preliminary examinations were not creditable to the profession. If he were asked whether good had been done by the Council and by the qualifying bodies since 1859, he admitted that good had been done. He knew from very distinguished professors that the young men who came to the study of medicine were in a far higher condition of preparation than students were formerly in, and were therefore more likely to become efficient practitioners. From the report of the

College of Physicians and Surgeons it appeared that those who passed the best professional examinations were those who had been best prepared by preliminary education, and those who passed the worst were those who had not the use of their own language. But while acknowledging that much good had been done, he contended that all the good had not been done that ought to have been done, and if something was not done by legislation to remedy the evil of competition between the licensing bodies they would fall into discredit, and the whole question of licensing for the Register would pass from their hands altogether. He wished to place the matter as strongly as possible before the Council. His desire was to have all the preliminary examinations conducted by the national educational bodies; to put an end to all remanet examinations; and to raise the question whether it was not possible to interpose between the existing preliminary and professional examinations an examination in science so as to clear the ground for a purely educational study.

Sir W. GULL, in seconding the motion, said he agreed with Dr. Storrar as to the necessity of training the minds of the students, but it was first necessary to make sure that they had any mind at all. They all felt that if the profession was to advance there ought to be better material to begin with. There should be such an examination as would at once cut off 33 per cent. of the candidates. The question had been raised whether, under such circumstances, they would be able to get a sufficient number of able and intellectual men to enter the profession, so as to supply the public with the requisite number of practitioners. He felt assured that they would. A stricter examination would of itself lead to better men presenting themselves, and they would thus gain in the end. He thought that up to sixteen or seventeen, students should be engaged in general education; that the next two years should be occupied with ancillary or preliminary studies prior to medicine; and that then the purely medical studies should be taken up. The universities would be doing a great public service if they would undertake a good deal more of the general and preliminary education, and leave the hospitals to teach the technical part of the profession. The Council were not now perhaps prepared to go the whole way that was required, but they ought to be prepared at least to show the way, and point out to parents and families the proper kind of preparation for the medical profession.

Mr. MACNAMARA maintained that the subject ought to be discussed by the Council, and not referred to a Committee. There had been many references to a Committee in past years, and no good result had followed. The Council might at once go into the whole question, and definitely settle it. He complained that the Council had recognised preliminary examinations of which it could know nothing but by hearsay. Such examinations should, he contended, be visited, and authentic information obtained with reference to them. He desired to contradict a statement by Dr. Storrar to the effect that the Royal College of Surgeons of Ireland gave qualifications to students who had not passed a preliminary examination.

Dr. STORRAR asked if an examination in Arts was passed before the commencement of medical study.

Mr. MACNAMARA said it was passed before the diploma was given.

Dr. STORRAR replied that that was a very different thing.

Dr. HAUGHTON thought that before referring the question to a Committee the Council ought to lay down certain broad principles as affecting the subject of preliminary examination. He amused the Council by reading a letter which he had received from a student in England, who desired to get a certificate from the Medical School of Trinity College, and after inquiring as to the mode of preparation, naïvely added, "I would rather pay you for a certificate if you will be so kind as to send me one." He contended that such requests would not be made unless there were some bodies in existence that sold their certificate.

Mr. TEALE deprecated the appointment of a Committee for any other purpose than that of formulating the various propositions relating to the subject in order that they might be conveniently brought before the Council at its present meeting.

The debate was then adjourned on the motion of Dr. Banks.

A communication was received from the Privy Council Office transmitting a despatch from Her Majesty's Agent and Consul General in Egypt, enclosing an extract from the *Moniteur Egyptien* prescribing the regulations under which medical men may exercise their professions in Egypt.

A communication was received from the King and Queen's College of Physicians in Ireland, presenting a return of the candidates for the licences of the College who showed marked deficiency in the subjects of the preliminary examination in 1878 and 1879.

Dr. A. SMITH said this was the only reply received in answer to the request of the Council.

The Council then adjourned.

Thursday, July 8th.

The Council met again to-day, under the presidency of Dr. Acland. The sitting was mainly devoted to the adjourned discussion on Dr. Storrar's motion with reference to preliminary education. Several representatives of Corporations spoke at length in vindication of those bodies from the charges brought against them; and Mr. Teale brought forward an amendment for the appointment of a committee to formulate the various proposals submitted by different members in regard to preliminary examination, with a view to their being discussed by the Council during the present session. Dr. Storrar expressed his concurrence with this proposal, and it was almost unanimously adopted.

After some formal business the Council adjourned.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Chester Rural Sanitary District (population 7515).—Dr. Kenyon reports for 1879 a birth-rate of 28·75 per 1000 population (excluding deaths in the County Lunatic Asylum), and a death-rate of 18·6, as compared with 16·8 in 1878. The most noteworthy event of the year was the occurrence of a severe outbreak of enteric fever in the Lunatic Asylum, due, it would seem, to the imperfect drainage arrangements of the building. Dr. Kenyon takes occasion to urge upon householders the importance of giving attention to these matters, and observes that "in a scattered rural district there is much greater difficulty than in urban districts both in discovering and in dealing with sanitary defects, whilst there is often even a greater necessity for efficient action. In regard to the dwellings of the poor very much had been done; but in regard to the best classes of houses, there is in many cases really a far more serious class of sanitary defects, and they are more difficult to discover. Had that thorough examination and process of remedy in the matter of ventilation of drains, disconnexion of waste-pipes, &c., which has been going on systematically for some years in the town, been equally advanced in the rural districts, as the latest result of a most exhaustive inquiry has shown, the direct cause of the worst portion of the outbreak at the Asylum would have been non-existent. This part of the outbreak stood out distinctively from the rest in these special features, which are recognised as those of an outbreak due to polluted water. An overflow-pipe from a cistern used for drinking purposes led into infected drains. Every person in the house except one, who had had the fever previously, took the fever in a very severe form."

Guildford (population 10,000).—Dr. John Morton reports for 1879 a birth-rate of 32 per 1000 population and a death-rate of 19·7, and the latter rate he regards as satisfactory when the severity and length of the winter are considered, the generally low temperature throughout the year, and the great depression in trade, which told upon the working classes. The "satisfactoriness" here spoken of by Dr. Morton must, however, be considered as relative to the present sanitary condition of the town and the principles (or rather want of principles) of the sanitary administration that obtains there. It is quite obvious that Guildford might become a much healthier town than it is if the Sanitary Authority and the ratepayers were willing. Guildford does not appear to have any system of sewerage, but gets rid of its liquid refuse by pouring it into cesspools specially designed

so that their contents shall soak into the subsoil beneath the site of the town. Its arrangements for house-drainage are apparently contrived to secure a fouled atmosphere in addition to the fouled subsoil; and not content with the fouling of the earth beneath the surface, the scavenging arrangements are made so as to perpetuate fouling of the earth upon the surface. Building appears to be on the increase in Guildford, but the Sanitary Authority seem so confident in the healthy position in which the town stands as to hold themselves exonerated from taking any serious systematic measures for maintaining it in a wholesome state.

SCARLET FEVER AT BRIGHOUSE.

Brighouse, in the West Riding of Yorkshire, has been suffering from a sharp outbreak of scarlet fever, and the medical officer of health, Dr. Britton, has presented to the Local Board a special report on the occurrence. The outbreak itself was sufficiently commonplace in its development, extension, fatality, and, unhappily, uncontrollability; but it has given occasion to Dr. Britton to express certain heretical notions on sundry current opinions, which deserve mention. In view of the incidents of this outbreak (and doubtless of previous outbreaks) he observes, "A system of compulsory notification of infectious disease is, in my opinion, a pretty theory, but impossible to be carried out in practice. If it could be done it would be invaluable, but I cannot see how it can." In the outbreak to which the report refers the local medical men rendered willing assistance to the medical officer of health, but then not 10 per cent. of the cases were seen by medical men. Dr. Britton clearly thinks that to require notice from the head of a family, or other persons, of a case of infectious sickness, when this has not been seen and diagnosed by a medical man, is a requirement not worth the paper it is written on. Dr. Britton did not think it advisable for the Local Board to establish a disinfecting apparatus, doubting the utility of this agency. Families there wash their clothes, and would not, according to Dr. Britton, allow them to be disinfected (meaning, doubtless, by heat). But the articles sent to a disinfecting stove are rarely those which can be disinfected by washing (beds, curtains, &c.), and even in Brighouse, we apprehend, beds are not washed. One thing only is to be depended upon in scarlet fever, according to Dr. Britton, for limiting the disease—namely, removal to hospital. But until the law makes it imperative upon local authorities to provide hospital accommodation he sees little hope of their doing so generally. Moreover, he holds it utterly impossible in the Brighouse district to persuade people to send their children to hospital. So that, between the imperfections of the law and the objections of the people, scarlet fever must be looked upon as a necessary occasional incident of Brighouse life (or death, as the case may be). Happily, Dr. Britton's Brighouse experience is not universal.

THE GOVERNMENT AND FEVER IN IRELAND.

Whatever criticism may have to say in regard to Government measures for dealing with Irish social and political problems, and criticism itself will admit that they are problems of extremest difficulty, one act of the Government will meet with universal approval. We have authority for saying that they have sent down a physician of acknowledged ability to examine and report upon cases of fever and other disease in the distressed districts. The physician so appointed is Christopher John Nixon, A.B., M.B. Dublin, physician to the Mater Misericordiæ Hospital, and to the Lord Lieutenant. He is well acquainted with fever, and was, we believe, a pupil of Dr. Lyons, now member for Dublin. We received, and we report, this information with great satisfaction. There has been the greatest vagueness in the information gathered up to this time, either as to its extent, or the nature of the cases—typhus or relapsing fever, and whether there is anything really exceptional in the amount or nature of disease in the districts. Mr. Forster has shown his usual good judgment in sending down a capable and independent witness, whose report will be a most material basis for a right estimate of the situation.

THE VACCINATION ACTS AMENDMENT BILL.

The Royal College of Physicians proposes to unite with the College of Surgeons, the Royal Society, and other learned Societies, in protesting against the Vaccination Acts Amendment Bill, introduced by the Government into the House of Commons.—A deputation from the Metropolitan Vestries and Boards of Guardians had an interview with the President of the Local Government Board on the 5th inst., to take objection to the Bill. The deputation were far from happy in their reasoning against the Bill, their argument being very markedly two-edged. Mr. Dodson replied in substance that in respect to the merits and desirability of vaccination he was in full accord with the deputation, but as to the infliction of multiple penalties the question was one of expediency. The effect of the Bill before the House will be that parents will be liable first of all to a penalty of 20s., under Clause 29, for not taking the child to be vaccinated; there the penalty is inflicted in the first instance. There would also be two penalties and costs, which would not by any means be easy. There would be no inducement to negligent people to disobey the law, and it would compel obstinate people to obey the law; but it would put a stop to those cases of excessive penalties which, he thought, rather tend to disparage the law and encourage resistance to it.—The Manchester Board of Guardians and the Birmingham Town Council have determined to petition Parliament against the Bill.

OVERCROWDING IN WORKHOUSES.

At a recent meeting of the Preston Guardians the fact was disclosed that the old habits of workhouse sanitary mismanagement still linger among us. A letter was read from the Local Government Board, founded upon a report of one of their assistant inspectors, Mr. Stevens, and which stated that that gentleman, visiting recently the Fulwood Workhouse of the Preston Union, had found the following state of things: In the Boys' Itch ward there were sixteen patients in ten beds, and in the Female Itch ward there were eleven beds occupied by twenty-three children with itch and three adults who were not suffering from itch. In the Lying-in ward there were ten beds, occupied by ten women and eight children. The Local Government Board have thought it right "to bring under the special notice of the guardians the crowded state of the wards above referred to, and to request that the matter may receive the attention of the guardians." Such is the courteous phrase in which the Local Government Board deals with a scandalous breach of decency, if not of duty, on the part of a Board of Guardians!

VACCINATION PROSECUTIONS IN MANCHESTER.

At the meeting of the Manchester Board of Guardians on the 1st inst. the Clerk read a return, called for at a previous meeting of the Board, showing the number of persons prosecuted by the Board under the Vaccination Acts 1867 and 1871, for neglecting to have their children vaccinated since the passing of the latter Act. The number of persons summoned was sixteen, of whom six were fined 1s. and costs; one was fined 5s. and costs; one 10s. and costs; and one 20s. and costs. Six cases were withdrawn or dismissed on payment of the costs, and one summons was not served. Twelve children were vaccinated before the summonses were returnable, and one was vaccinated immediately after the infliction of the penalty. One child died shortly after the summons was returnable; one was certified as insusceptible to vaccination; and one was vaccinated two months after the summons. In no case had any person been summoned more than once.

A Parliamentary Paper has been published containing returns relating to the financial position of the Metropolitan Board of Works. An estimate of the expenditure of the Board for the year ending the 31st December, 1880, contains the following items:—Main-Drainage, Thames Embankment, and Works within the Borrowing Powers of the Loans Act, 1869, £140,000; Commons and Open Spaces, £10,000; Artisans' Dwellings, £350,000; Street Improvements under Special Acts, £600,000. The loans to other Metropolitan Bodies, for purposes which doubtless include many sanitary matters, are estimated at £750,000.

The Bristol Board of Guardians has been exercised with the question of the use of stimulants in their workhouse, and have adopted the following recommendation of a committee to report on the subject:—"That all beer and other stimulants ordered for the paupers who act as nurses, or are employed in any unpleasant work, be supplied to them with their meals, and that the paupers be not permitted to take any part of their allowances out of the dining-room; also that the stimulants ordered for the sick paupers be administered

by a paid responsible officer, unless directions to the contrary be given by the medical officer, and that once a quarter at least the medical officer do specially reconsider every case in which stimulants may be in course of administration." One of the members of the Board suggesting that teetotalism underlays the resolution, added that vegetarianism would next have to be considered, and probably the doing away with clothing in the workhouse, after the fashion of an American sect.

The report of the Public Works Loans Board for 1878-79 shows the following items directly relating to sanitary matters:—Sanitary loans recommended by the Local Government Board under Section 243 of the Public Health Act, 1875, £1,637,819; loans under the Artisans' and Labourers' Dwellings Improvement Act (England), £111,546; ditto (Scotland), £115,000; loans to Local Boards and other authorities under the Public Health Act, but not under recommendations of the Local Government Board, £36,379; loans under the Labouring Classes Dwelling Houses Act, 1866, £53,000.

The joint committee of the Mid-Warwick Combination of Sanitary Authorities is to be moved by one of the authorities at their meeting in August, to reduce the salary of their excellent medical officer of health from £800 to £500, apparently on the ground that the sanitary organisation of the district having now been got into good working order by the present incumbent of the post, a cheaper official may serve to keep it going!

Mr. Alexander Brown moved in the House of Commons for a return, in tabular form, of all the local inspections made by the medical inspectors of the Local Government Board from the formation of that Department to the 31st March, 1880. The return is to include a summary of the latest information the Local Government Board may have as to the sanitary state of the places visited.

It would appear that owing to the operation of certain later Poor Law Acts sundry workhouses in Essex are likely to fall into disuse. One—that of Witham—is already deserted, and a conference of members of the different Boards of Guardians in the county was recently held at Chelmsford for the purpose of determining what should be done with the disused buildings.

At the meeting of the Bristol Board of Guardians on the 2nd inst. a motion to appoint a resident medical officer for the workhouse, which was negatived on division by 26 to 2, gave occasion for a very pleasing and general expression of respect and regard by the guardians for Dr. Grace, who has held the appointment of workhouse medical officer for eighteen years.

The Metropolis Water Examiner (Col. Bolton, R.E.) reports of the water-supply from the Thames for the month of May, that at the intakes of all the Companies it was in a worse condition during the latter part of that month than in April. He adds, however, that the filtration of the water supplied by all the metropolitan water companies was generally sufficient.

Terms having been come to between the Liverpool Corporation and the local authorities of St. Helens and Widnes on the Liverpool Water Bill, the Select Committee of the House of Commons on the Bill terminated its labours on the 1st inst., and the chairman (Mr. Selater Booth) ordered that the Bill should be reported to the House.

The Medical Officer of Health for the City of London, Dr. Sedgwick Saunders, reports the seizure of sixty-three tons of meat in the Metropolitan Meat Market which had become putrid during its conveyance from America to England. The meat was condemned, and at 6*d*. per pound it represented a loss of £3328.

VITAL STATISTICS.

HEALTH OF LARGE ENGLISH TOWNS.

The rate of mortality in our large English towns still continues exceptionally low. In twenty of the largest English towns, estimated to contain in the middle of this year seven and a half millions of persons, or nearly one-third of the entire population of England and Wales, 5239 births and 2722 deaths were registered last week. The births were 54 above, whereas the deaths were as many as 553 below, the average weekly numbers during 1879. The deaths were within 6 of those returned in the preceding week, and were equal to an annual rate of 18·0 per 1000, against rates declining from 22·7 to 18·9 in the eleven preceding weeks. During the thirteen weeks of the current quarter the death-rate in these towns has averaged only 20·4 per 1000, against 23·3, 22·7, and 22·2 in the corresponding periods of the three years 1877-78-79. The lowest death-rates in the twenty towns last week were 12·4 in Portsmouth, 13·5 in Bradford, 14·4 in Wolverhampton, 15·3 in Nottingham and Plymouth, and 15·7 in Leeds. The rates in the other towns ranged upwards to 21·3 in Salford, 22·9 in Leicester, 23·7 in Sunderland, 24·9 in Norwich, 25·6 in Liverpool, and 29·8 in Oldham. The comparatively high rates in these last-mentioned towns, excepting Leicester, were due to excessive zymotic fatality.

The deaths referred to the seven principal zymotic diseases in the twenty towns, which had been 406, 419, and 432 in the three preceding weeks, further rose last week to 476; these included 134 from diarrhœa, 102 from whooping-cough, 98 from scarlet fever, and 73 from measles. The annual death-rate from these seven diseases averaged 3·3 per 1000 in the twenty towns; it was but 0·7 and 1·2 in Wolverhampton and Portsmouth, whereas it ranged upwards to 7·3 in Salford, and 9·7 in Norwich. Scarlet fever showed the largest proportional fatality in Salford, Norwich, Sheffield, and Bristol; measles in Sunderland, Leicester, and Salford; and whooping-cough in Liverpool. Small-pox caused 14 more deaths in London and its outer ring of suburban districts, but not one in any of the nineteen other large towns. The number of small-pox patients in the Metropolitan Asylum Hospitals, which in the two preceding weeks had been 229 and 237, declined to 216 on Saturday last; 38 new cases of small-pox were admitted to these hospitals during last week, against 50 and 47 in the two previous weeks. The number of patients in the Highgate Small-pox Hospital was 10, against 9 and 11 in the two preceding weeks.

The deaths referred to diseases of the respiratory organs in London, which had been 198 and 176 in the two preceding weeks, were 177 last week, and were within one of the corrected weekly average; 90 deaths were referred to bronchitis and 64 to pneumonia. The annual death-rate from diseases of this class did not exceed 2·5 in London, whereas the rate from the same diseases was equal to 5·0 in Liverpool, and 3·9 in Salford.

HEALTH OF LARGE SCOTCH TOWNS.

In eight of the largest Scotch towns, having an estimated population of rather more than a million and a quarter persons, the annual death-rate last week averaged 20·9 per 1000, against 20·6 and 20·5 in the two preceding weeks; this rate exceeded by 2·0, or 11 per cent., the average rate in the twenty large English towns. The rates last week in the eight Scotch towns ranged from 14·4 and 16·1 in Greenock and Aberdeen, to 25·3 in Perth, and 36·1 in Paisley. The 99 deaths referred to the seven principal zymotic diseases in the eight towns showed an increase of 4 on those returned in the previous week, and included 25 from diarrhœa, 24 from whooping-cough, 21 from measles, and 16 from fever. The annual death-rate from these seven diseases averaged 4·0 per 1000 in the eight towns, against 3·3 in the twenty English towns. This zymotic rate, which was 0·0 in Greenock, and 2·5 in Edinburgh and in Aberdeen, ranged upwards to 6·2 in Leith and 9·7 in Perth. The 24 deaths from whooping-cough showed an increase on the declining numbers of recent weeks; 12 occurred in Glasgow, 5 in Dundee, and 4 in Edinburgh. The fatal cases of measles, which had been 23, 24, and 18 in the three preceding weeks, rose again last week to 21, of which 13 occurred in Glasgow, 3 in Edinburgh, and 3 in Aberdeen. The 16 deaths from fever showed a further increase upon those returned in the three preceding weeks; 11 occurred in Glasgow, 2 in Leith, and 2 in Perth. The fatality of fever in the eight Scotch towns was again greater than in the twenty English towns, and was proportionately heaviest in Perth. Of the 7 deaths from scarlet fever in the eight towns 4 were recorded in Glasgow and 2 in Leith. The deaths in these eight Scotch towns from acute diseases of the respiratory organs (bronchitis, pneumonia, and pleurisy), which had been 116, 88, and 79 in the three preceding weeks, increased last week to 91, and were equal to an annual rate of 3·7 per 1000. The rate from the same diseases in London did not exceed 2·5 per 1000. The recent excessive mortality in the Scotch towns has been most

probably due to the high death-rate from lung diseases and from zymotic diseases.

THE HEALTH OF DUBLIN.

The annual rate of mortality in the city of Dublin, which had been 42·5, 39·3, and 32·7 in the three preceding weeks, increased last week to 33·7, a lower rate, with the exception of that recorded for the week ending 26th June, than has prevailed in any week since the beginning of April. The annual rate of mortality in Dublin during the thirteen weeks of the current quarter, without any correction for defective registration, has averaged no less than 36·6. In London, during the same period, the death-rate has averaged but 19·4 per 1000. The 203 deaths in Dublin last week included 53, or 26 per cent., which were referred to the seven principal zymotic diseases, against 53 and 48 in the two preceding weeks; 19 resulted from scarlet fever, 14 from small-pox, 8 from measles, 5 from whooping-cough, and 5 from fever. The annual death-rate from these seven diseases was equal to 8·8 per 1000 in Dublin, against 3·2 in London, and 2·5 in Edinburgh. The fatal cases of small-pox, which had increased in the three preceding weeks from 13 to 19, again fell last week to 14.

HEALTH OF IRISH TOWN DISTRICTS.

The average annual death-rate per 1000, represented by the deaths registered last week in the sixteen principal town districts, was 29·3, that for Clonmel, 4·5, being the lowest; while the highest took place in Dundalk and Londonderry, being 51·2 and 58·9 respectively. The deaths from the seven principal zymotic diseases were equal to an annual rate of 5·5 per 1000.

HEALTH MATTERS GENERALLY AT HOME AND ABROAD.

COMPULSORY VACCINATION IN FRANCE.

Dr. Prosper de Pietra Santa has addressed a letter to the Members of the Chamber of Deputies on the proposal of Dr. H. Liouville for making vaccination and revaccination compulsory in France, and the scheme of legislation he has formulated on this subject. The learned editor of the *Journal d'Hygiène* heads his letter with the significant motto, "The Cart before the Horse," and he proceeds to show that Dr. Liouville's proposition is not opportune because of the present defective state of sanitary administration in France, the defective organisation of the vaccination service, and the difficulty of procuring trustworthy vaccine lymph. The letter is of interest, not only on account of the particular subject to which it is devoted, but also on account of the insight it gives into the existing state of sanitary organisation in France. Until this organisation is remodelled, and placed upon a different basis to that upon which it now exists; and until definite provision can be made for the expenses which must be incurred for instituting a system of compulsory vaccination, Dr. De Pietra Santa holds the proposition for establishing such a system premature and futile. We here can scarcely conceive of a system of general compulsory vaccination in France, which would not be carried out by the intervention of medical men. One of the most curious parts of Dr. De Pietra Santa's arguments relates to the number of medical men in France with reference to this question. It would seem that (including officiers de santé) there is but one medical man in France to every 2600 inhabitants, and that there are no less than 26,697 communes, out of a total of 36,056, in which there is not a medical man resident! Without money and without the materials for a staff, it certainly seems strange, as Dr. De Pietra Santa observes, that a project of compulsory vaccination should be brought forward. There is much to be done, he observes, before France can be placed in a condition for giving due effect to a law of compulsory vaccination, before in fact—reversing the present state of things—the horse can be put before the cart. If Dr. De Pietra Santa had been more familiar than he appears to be with the history of compulsory vaccination in England, he would probably have seen reason to forego a theoretically complete sanitary organisation as a necesary starting-point for compulsory vaccination. He does not appear to be aware that compulsory vaccination here began, as Dr. Liouville proposes it should begin in France, "la charrue avant les bœufs."

THE EPIDEMIC OF FEVER IN MAYO.

In Swinford Workhouse Hospital there were last week upwards of forty cases of fever, the majority of which, however, had been admitted from districts adjacent to the town of Swineford. Two additional deaths have taken place; and it is stated that such is the dread of the disease that the chairman of Quarter Sessions has adjourned the sitting of his court for three months. Strange to relate, some of the schools in the infected districts are not closed, which, combined with the attendances at wakes and funerals, and the general insanitary surroundings of the lower classes, tend to increase the spread of the disease. It appears upon reliable authority that the disease is typhus fever of a rather mild type, although a few cases of a malignant nature have occurred. The disease usually prevails in the districts at present affected at a similar period of the year; consequently, its origin cannot be solely attributed to the want of proper nutriment, but those whose system is depressed by privation and distress, as is well known, are more liable to be attacked than others. The sanitary shortcomings of the poorer classes would scarcely be credited. Collections of waste manure and dirt surround the miserable hovels they exist in, and in the inside of these cabins, which usually consist of one to two rooms, used as day and sleeping apartments, dirt and squalor prevail. Under conditions such as these disease like the present outbreak of fever easily obtains a footing; and the only wonder is that it has not exhibited alarming proportions.

"RUSSIAN TYPHUS" IN LEEDS.

The rivalry between the two great and neighbouring manufacturing towns of Bradford and Leeds is a well-known local phenomenon, but it would appear to have now assumed a strange form. Bradford has the unenviable notoriety of having within it a formidable disease, imported, as it would seem probable, by wool brought from the eastern-most districts of Asia Minor. Not to be outdone, Leeds, it is currently reported, has an outbreak of typhus attributed to infection conveyed in flax imported from Russia, in the same fashion, as one correspondent ingeniously puts it, as the infection of plague was formerly imported into this country in wool! The comparison is an unlucky one, and we shall venture to hope that the reported transmission of infection rests on no better foundation in the one case than the other.

At the recent meeting of the Birmingham and Midland Association of Medical Officers of Health (Dr. Fenton, President), Dr. Strange, of Worcester, read a paper on infantile mortality in that city. The result of special investigations he had made on this subject led him to conclude that the greatest proportion of infantile mortality was in the artisan class. The great bulk of the deaths were inexplicable on the grounds of situation, soil, or epidemic; and condition of life and means of living was no certain test. The great cause was neglect, from the ignorance or poverty of parents. A larger number of deaths arose from the faulty mode of feeding children than all the rest of the causes combined, and many from the improper exposure to cold of the extremities of children, either from the poverty or vanity of parents. In the case of artisans' children the neglect must be involuntary, from ignorance, but in the case of illegitimate children put out to nurse he thought criminal viciousness sometimes came in.

The Earl of Shaftesbury, K.G., presiding at the recent annual meeting of the Society for Improving the Condition of the Labouring Classes, mentioned, among other illustrations of the sanitary value of the Society's labours, the following fact. Speaking of the once notorious Tyndall's-buildings, he stated that in one year, before the Society purchased them, twenty-two cases of fever had been removed to hospital from a horrible cul-de-sac there. Since the Society had acquired the property, twenty years ago, and altered it, there had not been a single case of fever in the buildings composing it.

The twenty-first report of the Board of Superintendence of the Dublin Hospitals, recently issued as a Parliamentary paper, refers to the year ending the 31st March, 1879. The patients under treatment during the year numbered 13,480, of whom 11,607 left the wards cured or were dismissed for other causes, and 1025 died—a mortality of 8·31 per cent. of the cases treated to a termination. The average number of

beds occupied daily throughout the year was 86·75, and the average time spent in hospital by each patient twenty-one days. Of small-pox patients admitted to the hospitals receiving this form of disease, the number was 2123, of whom 479 died, a mortality of 22·56 per cent. The report has some important observations on the defective provision in the hospitals for the reception of cases suffering from the violent delirium of drink, and the defective police arrangements for dealing with persons picked up in a comatose condition.

The population of the Zurich canton, wearied, it would appear, by the seemingly endless discussions of the learned and the press on the subject of vaccination, have determined to submit the question of the maintenance or suppression of the operation to popular vote.

Small-pox is reported to be prevalent at Christiania, and tourists are warned against visiting this part of Norway until further and more definite information is received as to the disease.

We understand that another company has been formed for the purpose of utilising London sewage in fertilising farms and market-gardens in Essex.

The reported prevalence of small-pox at Amsterdam has, we understand, been contradicted officially.

THE SERVICES.

THE INDIAN MEDICAL SERVICE.

WE have received numerous communications from India on the subject of the recent reorganisation of the Medical Service. The complaints made with regard to it appear to be that an injustice has been done to the Department by the abolition of the appointment of surgeon-general in the military branch and the suppression of two deputy surgeons-general, and by the adoption of the principle of selection for the administrative appointments instead of promotion by seniority. The first of these grievances has been discussed at some length in the *Englishman*, which seems to be the organ of those adverse to the measure. But, by its own showing, the change has benefited instead of having injured the Department. It concludes a long article by this statement: "It therefore seems that the officers of the Bengal Medical Service are now eligible for promotion to six military deputy surgeon-generalships, four civil surgeon-generalships, and three sanitary commissionerships in all; whereas in 1879 they were entitled to one surgeon-generalship, one sanitary commissionership, eleven deputy surgeon-generalships, thirteen in all." So that the grievance really amounts to this, that in Bengal the Department has lost five deputy surgeons-general by three of them having been promoted to surgeons-general and two made sanitary commissioners—an appointment corresponding in rank and pay with that of deputy surgeon-general! This is a loss of which, we imagine, few departments would be disposed to complain.

The argument—if it can be so called—brought forward in favour of giving the Indian Medical Department a share of the appointments of the military surgeons-general is very peculiar. The *Englishman* states that the Indian service attracts the best students, and that while at the examinations in February last 42 candidates competed for 35 places in the A.M.D., there were 52 for 23 places in the I.M.D. It is difficult to understand how this could be deemed a reason for adding to the attractions of the Indian service at the expense of the Army Medical Department. We should have thought it told in exactly the opposite way, and that additional lucrative appointments were required for the latter. We should be sorry to see any attempt made to level down the Indian service, but we cannot approve the persistent attempts to have it improved at the expense of the British. If there be any real ground for complaint in the fact of all the military surgeon-generalships being reserved for the latter, this should be remedied, but, as we have repeatedly said, such a change can only be made by granting to the Army Medical Department compensation in the form of a share of the civil administrative appointments corresponding to the number of military ones which would thus be taken from them.

With regard to the other ground of complaint,—the adoption of the system of selection for administrative appointments, instead of promotion to them by seniority,—we can only repeat that in the interests of the public service some such change was requisite to prevent important posts being too often filled by men who might fairly be classed as below mediocrity. The system has been introduced into the Army Medical Department, and we may add, into very many of the other branches of the public service, and although undoubtedly it inflicts a hardship upon individuals, yet the results, as regards the public interests, are such as not only fully to justify, but imperatively to call for its adoption. That it may be liable to abuse must be admitted, but in the present day the force of public opinion and the powerful aid of a free Press will, we cannot doubt, prove an effectual check upon it.

CAN IT BE TRUE?

Our contemporary, the *United Service Gazette*, states that "H.M.S. *Newcastle*, our only training-ship for young seamen, is in so unsatisfactory a state that a very heavy sick list appears to be the normal condition. We hear, however, that her captain has hit upon an expedient for reducing the sick list, to which we might be permitted to draw the attention of the Admiralty, and also that of the Royal College of Surgeons and the medical schools of the country. Sending for the fleet-surgeon, the captain informed that officer, 'I'll take means to reduce it [the sick list]; you and the senior surgeon shall take turns of duty till it is of a reasonable size.' This is a most original and ingenious method of rendering popular a service which, at the present time, cannot get anything like an adequate number of candidates for admission, and of improving the health of a ship's crew. We would recommend the Lords of the Admiralty to institute an inquiry by competent officers—certainly not naval captains—as to the cause of this great amount of sickness, and the most probable means of reducing it. The latter undoubtedly cannot be to confine the medical officers on board till it is reduced. We should not be the least surprised if a careful investigation were to show that the sickness depended on preventable causes quite within the reach, if not actually arising from some crotchet of the captain, who, if the above be true, has not shown himself to be a man of sound judgment and discretion. We cannot believe that Lord Northbrook would sanction such an extraordinary proceeding, and we trust it may be at once brought to his notice."

Correspondence.

"Audi alteram partem."

POISONOUS LEMONADE.

To the Editor of THE LANCET.

SIR,—May I beg to draw your attention in your capacity of guardian of the public health to a wholesale system of poisoning now being practised by certain vendors of cheap lemonade, mostly barrow or peripatetic vendors, but occasionally by owners of ice and lemonade shops. During this summer it has become the practice amongst certain persons of the above-mentioned class to expose lemonade for sale in large glass inverted-bell-shaped vessels, successive portions of lemonade being abstracted by syphonage. The general idea is so good that it would be a pity for its application to be checked through the operation of any unreasonable outcry; but if the syphons now used be not summarily abolished, most serious consequences will follow. Citric acid, as I need not explain to professional readers of THE LANCET, is the acid principle of lemons; equally unnecessary would it be to explain the rapidity of its action on certain metals, especially lead and copper, giving rise in either case to a dangerous poison. Now, the lemonade syphons I have mostly seen are made of ordinary lead gas-pipe, and commonly furnished with an ordinary brass tap. The dangerous result of using a syphon of such kind need not be enlarged upon. The glass reservoir would be invariably found to contain citrate of lead, and a glass of lemonade, passed through the brass tap, would hold citrates of copper and zinc, all dangerously poisonous.

It is not to be expected that private persons, occupied with their own affairs, are to take upon themselves the

gratuitous trouble of redressing public evils; but recently on a Sunday a street case of wholesale poisoning by lemonade syphonage, of such glaring prominence, came before my notice, that I cannot, without a guilty cynicism, forbear to intervene. Outside an Italian ice and lemonade shop I, whilst some twenty paces distant, was struck by the grass-green tint of the lemonade contained in a glass reservoir. Walking up close to it, I was horrified to see a copper syphon tube steeping in the reservoir; and this is not all. The constructor had evidently reflected on the hydraulic conditions of syphonage. He had adapted a spring stopper to the free mouth of the copper syphon in such a way that finger-pressure would at once cause the syphon to flow. The practical result of this arrangement, as will be seen, is that each successive glass of lemonade drawn not only holds the percentage of copper contained in the reservoir bulk of lemonade (dangerously strong already), but an additional portion of higher concentration, locked up in the syphon before it is caused to act. The lemonade was extensively patronised. Standing aside at a distance, I saw more than a dozen customers, each one booked, as I think you will admit, for an inevitable colicky pain at the least—in some cases for actual colic, which probably might be hereafter attributed to the eating of fruit, to atmospheric agencies—in short, to one of many causes not the right one.

Having put you in possession of the facts, it may be deemed worth while to throw down the copper held by a glass of this lemonade, and publish its amount. Either sulphuretted hydrogen or hydrosulphate of ammonia would of course effect precipitation at once, previous neutralisation being in the case of acid copper solutions unnecessary.

I am, Sir, yours faithfully,

June 28th, 1880. J. SCOFFERN, M.B. Lond.

BLISTER TREATMENT OF ACUTE RHEUMATISM.

To the Editor of THE LANCET.

SIR,—I was pleased to observe in the last number of your journal the remarks made by Mr. Ilott of Bromley, Kent, respecting the value of the blister treatment of acute rheumatism. This plan I had extensively worked out at the London Hospital, and published the results obtained in the reports for 1864.

Treatment is unfortunately very much the subject of fashion, and tried and approved modes of practice are often laid aside and forgotten in the search for novelties. I am glad to find that the notice of the profession is again drawn to a safe and sound plan of treatment which rapidly relieves the pain and fever, and when carried out *boldly and decisively* shields the heart from inflammatory action and permanent structural change.

I am, Sir, yours faithfully,

HERBERT DAVIES, M.D.,
Consulting Physician to the London Hospital.

Finsbury-square, July 3rd, 1880.

ON THE EXCISION OF OBSTRUCTION AT THE NECK OF THE BLADDER.

To the Editor of THE LANCET.

SIR,—Mr. Browne commenced by objecting to Mercier's operation on the broad principle that such operations as "excision of obstruction at the neck of the bladder" were "useless" and "injurious." Finding, however, from the evidence I brought forward that the removal of prostatic obstruction was practised by some surgeons and recommended by others, he shifted his position, objecting now to the operation on the ground of the particular means employed to effect the object, "by passing instruments down the urethra." The *principle* of the desirability of removing prostatic obstruction, in certain exceptional cases, may now be regarded as established, and whether a surgeon prefer to effect the object by cystotomy, or by perineal puncture and ligature, or by excision per urethram, is altogether a secondary question to be decided by each operator as he may think best. For Mr. Browne to object to an operation because it had in many instances to be repeated, is about as reasonable as if a surgeon were to object to lithotrity on the ground that Sir H. Thompson had in so many of his cases been obliged to repeat it. Before commencing my lectures I applied to M. Mercier for recent information regarding his operation. Unfortunately he was absent from Paris and very ill, but promised that he would give it on his return. Within the past few days I have received a letter from M. Reliquet, stating that he had recently performed Mercier's operation in two instances and that the results were "heureux." So much for the operation which Mr. Browne says was abandoned because it was useless and injurious.

On the one side we have positive evidence of the value of the operation afforded; firstly, by a series of cases published by Mercier, *with the names and addresses of the patients*; secondly, by the report of the Académie de Médecine; thirdly, by that of the Académie des Sciences; and, fourthly, by Reliquet's practice. What have we on the other side? The allegations of Mr. Browne, who has failed to produce any facts to support them.

I remain, Sir, your obedient servant,

Portman-square, July 5th, 1880. W. F. TEEVAN.

THE DISPUTE AT GUY'S HOSPITAL.

To the Editor of THE LANCET.

SIR,—I beg to forward a copy of a letter sent by the students to Mr. Brudenell Carter, and to ask you to kindly insert it in the next number of THE LANCET.

I am, Sir, yours obediently,

W. HALE WHITE, M.B. Lond.
House Physician.

The Reading Room, Guy's Hospital, June 6th, 1880.

To R. BRUDENELL CARTER, Esq.

Sir,—We, the undersigned students of Guy's Hospital beg leave to offer you our thanks for your letter to THE LANCET of the 25th ult. We desire to assure you that our demonstration against the Treasurer was undertaken with the greatest reluctance, and only under the conscientious conviction that our justification was in this case perfect. We feel deeply grateful for the sympathy shown towards the staff of our hospital, engaged as they are in a difficult and delicate controversy, to preserve intact the tradition of a school which numbers in its roll the names of Bright, Addison, and Astley Cooper, and to keep their patients from the grasp of a nursing system which in its vaunting self-sufficiency shrinks not from endangering their safety, and utterly destroys the old home comforts of the ward.

We have the honour to be, Sir, your obedient servants,

A. ERNEST MAYLARD, M.B., B.S. Lond.,
Senior House Surgeon,
G. H. RUSSELL, M.B. Lond.,
Senior House Physician,
R. WATTS WHITE, M.R.C.S.,
House Surgeon,
W. HALE WHITE, M.B. Lond.,
House Physician,
J. H. MORSE, M.R.C.S.,
Junior House Surgeon,
J. A. J. HOWELL, L.R.C.P., M.R.C.S.,
Junior House Physician,
T. S. CROOK, M.R.C.S.,
Senior Obstetric Resident,
H. H. STURGE, M.R.C.S.,
Junior Obstetric Resident.

June 29th, 1880.

To the Editor of THE LANCET.

SIR,—In answer to Mr. Larkin's appeal, I would suggest a committee of old Guyites, to demand from the Governors the immediate resignation of both Matron and Treasurer, to restore order; and that the nursing arrangements be placed under the supervision of the Medical Superintendent. If this is refused, try the question in our law courts—"That the nursing arrangements being prejudicial to the care and comfort of the sick in the hospital, are not the Governors acting contrary to the Trust Deed of the founder in allowing such a thing to exist?"

The present state of things has gone too far, and it is the duty of all Guy's men to rally round the staff. A mass meeting would be useless; it must be done by a committee in London, who should act for those in the country.

I am, Sir, yours truly,

C. F. HARDING, M.D.,

Whittlesea, July 5th, 1880. Formerly Birkett & Bryant's Dresser.

"TREATMENT OF HÆMORRHOIDS BY 'CRUSHING."

To the Editor of THE LANCET.

SIR,—Mr. George Pollock, in his observations upon the Treatment of Hæmorrhoids by "Crushing," speaks of the pain occasioned by the clamp and cautery operation as "sufficiently severe to occasion much subsequent suffering, and often for some days."

During the last six years I have had the opportunity of watching a very large number of cases operated upon by Mr. Henry Smith for hæmorrhoids, with the clamp and cautery, both in hospital and private practice, and I think it right to state that my estimate of the amount of pain attendant upon this method does not accord with that of Mr. Pollock. I may say at once that the pain is never severe, and that usually it does not last two hours, after which time patients speak of their condition as one of discomfort rather than of suffering.

If I compare the crushing with the clamp and cautery operation on another point—that of hæmorrhage—I find that the latter has an absolute advantage; for Mr. Pollock admits the inefficiency of the crushing process, and recommends the application of ligatures as a supplementary step, whereas the clamp and cautery operation may be said to be free from the complication of hæmorrhage.

Further, I beg to submit the probability that the presence of ligatures in a wound, the tissues of which abound in large veins, exposes a patient to increased risks.

I am, Sir, yours obediently,

A. BOYCE BARROW, F.R.C.S., M.B.,
Pathological Registrar, King's Coll. Hosp.

Welbeck-street, Cavendish-square.

"TYPHOID FEVER."

To the Editor of THE LANCET.

SIR,—I have read with much interest the communications in the issues of THE LANCET of December 13th, 1879, and January 3rd last, from Sir J. Fayrer, regarding the existence of a fever in tropical and sub-tropical climates similar in its pathology to typhoid fever, but not due to the same cause.

We live in latitude 28° 43' S.; and as far as my short experience of six years in this part of Western Australia goes, it has convinced me that many cases of the so-called typhoid fever here are not due to typhoid origin.

Amongst my cases of this fever I have had cases brought in from many miles in the bush, and these have been young, healthy subjects, who have been exploring for new squatting country, or else travelling in the bush for other reasons, and the cause has been assigned by them to be due either to sleeping on damp ground, or in damp huts. But in *all* these cases the symptoms have been exactly similar to typhoid fever, with the exception that I have never found the rash.

In conclusion, I would beg to ask some of your readers, What is the difference between typhoid fever and Colonial fever? I have been told by an experienced Colonial practitioner they are "one and the same disease." If this be so, why should we give typhoid fever another name? But if not, let it be thoroughly understood that Colonial fever is due to another cause.—I am, Sir, yours obediently,

CHAS. BOLTON ELLIOTT,
District Medical Officer.

Champion Bay, Western Australia,
March 23rd, 1880.

"THE LANCET" COMMISSION ON WORKHOUSE INFIRMARIES.

To the Editor of THE LANCET.

SIR,—In the introductory article upon your Commission on Workhouse Infirmaries you refer to some of the causes which render the sick *poor* sick *paupers*. Might I refer shortly to another cause which frequently comes under my notice?

The sick poor person or his friend applies to the relieving officer for an order of admission to the workhouse infirmary. The officer tells the applicant that the district medical officer, who must recommend the order, has gone for the day (he only sitting in the relief office one hour a day), and that, therefore, the only thing he (the relieving officer) can do is to give an order for the workhouse, from which he *may* be sent to the infirmary.

This state of matters pauperises the poor sick man at once; because the moment he passes the workhouse gates with his order he becomes a pauper, and because, secondly, he is so often so acutely ill that it is quite out of the question to think of sending him off to the infirmary, putting him to the fatigue of another journey, and he has consequently to remain in the workhouse. On the other hand, should he be sent to the infirmary from the workhouse under the above-mentioned circumstances he is most commonly sent back after he is "cured" or "relieved," or voluntarily returns whence he came—the workhouse. This happens over and over again, and I am convinced from a few years' experience that if many of the cases had not been sent into the workhouse in the first instance, where from unfortunate associations in the house they lose all spirit and even thought of independence, they would not, as many of them do, become chronic paupers.

In my opinion, the remedy for this worse than unsatisfactory state of matters is to be found, to a great extent, in some reform in the system of out-door medical relief: either in appointing the district medical officer or officers to attend at the relief offices oftener than one hour a day, or in appointing one or more medical officers to every union or combination of unions, whose entire time shall be devoted to the requirements of the out-door sick poor.

I enclose my card, and remain yours faithfully,

A MEDICAL OFFICER OF A METROPOLITAN WORKHOUSE.

May 22nd, 1880.

PARIS.

(From our own Correspondent.)

A FEW days since Dr. Liouville, the framer of the proposed law to make vaccination and re-vaccination compulsory amongst all classes, was heard by the Parliamentary Commission appointed to study the question, and although his project is now stringent (see THE LANCET, April 3rd) it was very favourably received. The last *Bulletin Hebdomadaire de Statistique Démographique* shows that legislative interference in this matter will not be ill-timed. The average mortality of Paris for the corresponding weeks of the last three years was 23·1 per thousand, whereas the week ending July 1st, 1880, gave a death-rate of 25·69. This represents a total of 981, and of these nearly a twentieth (48) were due to small-pox, which has thus been six times more fatal than in the three preceding years, when it only caused $\frac{1}{113}$ of the whole mortality, or 7 deaths in a total of 884. These figures prove the prevalence of the epidemic, and others may be given to shew that it exhibits an unusual degree of severity at the Laennec Hospital, where there are special wards for the reception of variolous cases—the mortality amongst the patients admitted is very high. It has been increasing progressively from 10·27 per cent., or one death in 9·63 cases, in 1876, and at the present time it stands at 19·41 per cent., or, in other words, one death in 5·15 cases. Dr. Bertillon, the Director of the Statistical Department of the town, attributes the persistence of the present epidemic to the neglect of re-vaccination; and he points out the immunity which this practice has conferred upon the military. From the 1st of January of the present year the deaths from typhoid and variola amongst the civil population of Paris have been 1043 and 1519 respectively, but the proportion in the army has been very different, 206 soldiers having died of the former, whilst only 3 have succumbed to the latter.

Apropos of small-pox, an interesting communication was made to the Academy of Medicine by M. Léon Labbé on behalf of Dr. Vidal, of Grasse. An infant, whose mother had never suffered from this disease, was born covered with variolous pustules, which appeared to be seven or eight days old. It died in a few hours, and M. Vidal was able to obtain a portion of its skin, which he sent to the Academy. It is still more worthy of note that the father was affected with semi-confluent small-pox in the beginning of December, and that conception took place either at the end of November or the beginning of January of the following year.

Paris, July 7th, 1880.

ROYAL COLLEGE OF SURGEONS.

AT a quarterly meeting of the Council, held on Thursday, Mr. John Eric Erichsen, F.R.S., was elected President, *vice* Mr. Luther Holden; and Mr. Erasmus Wilson, F.R.S., and Mr. Spencer Wells, were elected Vice-Presidents. The following re-elections were made:—Drs. Bristowe and Dickinson, Examiners in Medicine; Mr. J. Hutchinson, Professor of Surgery and Pathology; Mr. W. H. Flower, F.R.S., and Mr. W. K. Parker, F.R.S., Professors of Comparative Anatomy and Physiology; and Mr. B. T. Lowne, having resigned the Lectureship of Anatomy and Physiology, was succeeded by Mr. Gerald Yeo. Messrs. Coleman and A. Winterbottom were elected members of the Board of Examiners in Dental Surgery.

The President's Annual Report on the affairs of the College was presented. The President and Vice-Presidents were deputed to join with the President of the Royal College of Physicians and the President of the Royal Society to protest against the Vaccination Acts Amendment Bill, and to seek an interview with the Premier and the President of the Local Government Board. The report of the Erasmus Wilson Fund Committee was received and adopted. A letter on the grievances occasioned by the alterations in the Indian Medical Service was referred to the President and Vice-Presidents, to take such steps thereon as might be deemed desirable.

MEDICAL NOTES IN PARLIAMENT.

IN the House of Commons, on Saturday, July 3rd, Mr. Mappin inquired whether the attention of the Home Office had been called to the alleged wholesale poisoning at Welbeck, Notts, where several deaths had occurred and sixty persons were reported to be ill; and whether a Government official would be sent to inquire into the matter, as the deputy coroner had expressed an opinion at the adjourned inquest very much in opposition to the medical evidence.—The Under-Secretary (Mr. Peel) replied that the local medical officer of health had been in communication with the Local Government Board, who would send down a gentleman to make inquiries if they thought it necessary. He understood that the inquest was still open, and a medical examination was being made on the intestines of the unfortunate victims of this lamentable occurrence. He would be able to give further information on the subject when he had seen the President of the Local Government Board.

In Committee on the Irish Relief Bill, Mr. Parnell spoke of the fever which has broken out in the county of Mayo as spotted typhus, and attributed it to six weeks' subsistence on Indian meal. He said the people generally were getting weaker and weaker, and bold measures of relief were necessary to prevent famine. Mr. Forster, in reply, took a hopeful view, but admitted that if the harvest proved a failure very exceptional measures of relief would be needed, and for that contingency the Government were prepared. During the progress of the clauses, the Chief Secretary made three important concessions: (1) Postponement of the repayments under the Seeds Act; (2) acceptance of the principle of grants to boards of guardians in aid of out-door relief; and (3) increase of the grant for fishery piers. Notwithstanding some plaintive complaints from hungry members at seven o'clock, who wanted an adjournment for two hours, the sitting proceeded uninterruptedly from twelve at noon to half-past at midnight, and Mr. Forster, who stuck to his task with sturdy determination, assured Mr. Biggar that he would go to church with a clearer conscience now the Bill was through.

On Monday the second reading of the Government Bill for the abolition of cumulative penalties for non-vaccination was further deferred for a week. A petition against the measure was received from the Royal College of Surgeons in Edinburgh. A question was put by Mr. A. M. Sullivan in reference to the grievances complained of by Mr. F. G. C. Shaw, senior veterinary surgeon of the Madras army, to which the Marquis of Hartington replied that the case was dealt with by his predecessor at the India office, Lord Cranbrook, and he had not yet had an opportunity of reading the correspondence. Until he had done so, of course he could hold out no hope of a reversal of the decision of Lord Cranbrook.

On Tuesday Mr. P. A. Taylor interrogated the Government as to the instructions given for the use of plank beds in prisons. Mr. A. Peel replied in detail, showing that plank beds were recommended by a Select Committee in 1863 for prisoners under short sentences or in the earlier stages of a long confinement; that these recommendations were embodied in the Prisons Act of 1865; that the rule was relaxed in 1868 in favour of women, old men, and children, to the extent of allowing them a pillow and mattress; and that the almost universal use of the plank bed since 1865 justified the opinion that it answered its purpose. The following are the words of the rule now in force:—"That a convicted criminal prisoner shall during the whole of his sentence, when it does not exceed one month, and during one month of his sentence when it exceeds one month, be required to sleep on a plank bed. The prisoner shall be allowed by his industry to earn a gradual remission of this requirement after one month, but after he has earned such remission he shall be liable to forfeit the same on account of idleness, inattention to instructions, or misconduct."

Mr. Joseph Cowen gave notice that on Monday he would ask whether the Government intend to take steps towards the better enforcement of the Canal Boats Act, 1877, so far as it relates to the overcrowding in the cabins and the education of the canal boat children; and also whether the Government intend to bring temporary abodes, such as gipsy tents, vans, shows, and like places under the influence of the sanitary officers, and the children under the power of the Educations Acts.

Mr. Alexander Brown gave notice that he would move for a return showing, in a tabular form, in order of years, all the local visitations which have been made by medical inspectors under the direction of the Local Government Board, from the date of the establishment of the Board to the 31st day of March, 1880, with regard to prevalences of disease in particular places, and to questions therewith connected, of defects in sanitary administration, and stating in successive columns in regard to each visitation, as follows:—1. Names and population of the places or sanitary districts inspected. 2. Date of the visitation (or, when several visitations have been made, of the first of them) and name of the inspector. 3. On what ground of complaint, or otherwise, the visitation was ordered. 4. Précis of facts reported by the inspector with regard to the prevalence of disease, and to the existing defects of sanitary administration. 5. Re-inspections (if any) which have since been made in the same areas with reference to the defects of sanitary administration, with the date of each re-inspection and name of inspector. 6. Précis of the latest information had by the Local Government Board as to the sanitary state of the places, and when given, and how authenticated.

On Wednesday, during a discussion on the Sea Fisheries (Ireland) Bill, Mr. Blake, formerly an inspector of fisheries, in an argument for the extension of the system of loans, stated that the fishing industry of Ireland was greatly reduced by the famine of 1847, because eating fish with Indian meal had the effect of giving the people dysentery.—Mr. Finnigan gave notice that he would question the Government concerning a letter from the Bishop of Achrony to the Archbishop of Cashel, reporting an outbreak of famine fever, and as to the sending of adequate medical relief to the fever districts.—The nomination of the Select Committee on the Contagious Diseases Acts was on the notice paper for Wednesday, but as Mr. Puleston had put down a notice of opposition, and the matter was not reached until just before the end of the sitting, it was necessarily deferred. The following are the names of the gentlemen who will be proposed by Mr. Childers as members of the Committee:—Mr. Cavendish Bentinck, Mr. Stansfeld, Colonel Alexander, Sir Harcourt Johnstone, Viscount Crichton, Mr. Burt, Mr. O'Shaughnessy, Mr. Osborne Morgan, Mr. Brassey, Mr. Cobbold, and five members to be added by the Committee of Selection. Mr. Cavendish Bentinck has given notice that he will move to omit the name of Mr. Brassey, and to substitute that of Mr. Puleston.

On Thursday Mr. A. Brown moved for a return of local visitations by medical officers under the direction of the Local Government Board. No opposition was offered, and the return was ordered. Mr. Forster, replying to questions by Mr. Finnigan and Mr. O'Connor Power, said the Irish Government had sent two medical inspectors from Dublin

Drs. Woodhouse and Nicholson, to the fever districts, and he was expecting soon to receive reports from them. The Government had sent positive orders to the boards of guardians and to the inspectors to see that no money was spared in giving medical assistance, fresh food or change of food, and everything necessary to prevent the spreading of the fever. He was rather more encouraged by an account he had received, and which he would lay upon the table, but he could as yet make no positive statement to the House.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—The following gentleman was admitted a Fellow of the College on July 2nd:—

Thomson, John Roberts, M.D. Edin., Bournemouth.

On the same day the following gentleman was admitted a Member of the College:—

Sarell, Richard, M.D. Edin., Pera, Constantinople.

On Monday and Tuesday last the following gentlemen passed the first part of their Professional Examination for the licence of the College:—

George F. Edwards, Joseph R. Locke, Henry Aked Pearson, Henry J. Prangley, Thomas Wakley, Jun.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the Primary Examination in Anatomy and Physiology at a meeting of the Board of Examiners on Monday, Tuesday, and Wednesday last:—

George W. Ridley, Samuel Brookfield, and Robert Hardie, Newcastle-on-Tyne College of Medicine; Jacob R. L. Dixon, Alfred Thomas, and James F. H. Owen, Liverpool; George D. Mackintosh, Laurence J. Ruck, William Harding, and Roger Kirkpatrick, Edinburgh; Lewis Powell and Thomas Cardwell, Guy's Hospital; Arthur H. N. Lewers, University College; James Robertson, Charing-cross Hospital; J. Gutierrez-Ponce, Paris and New York; David R. Paul, Bengal and Edinburgh; James T. Carter, Halifax and Edinburgh; Harman Rieger and Henry H. Parsloe, Bristol; David W. Whitfield, Dublin; Robert B. Carruthers, John T. Smith, John A. Laycock, Edward Kershaw, Alfred B. Liptrot, and W. H. Horrocks, Owens College, Manchester; T. G. Heak, Sheffield; A. Cowley, G. Hassall, J. R. Stuart, and A. Milne, Aberdeen; F. W. Hewitt, H. Deighton, J. Y. Bostock, Cambridge; A. E. Foster, Leeds; A. H. Hart and W. Dudley, Birmingham; D. P. Edwards, St. Bartholomew's Hospital; R. W. Statham, St. Thomas's Hospital.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on June 1st:—

Carnall, Edward, Fowey, Cornwall.
Sellers, William, Radcliffe, Manchester.
Scarth, Isaac, Longsight, Manchester.

UNIVERSITY OF DUBLIN.—The following degrees were conferred last week:—

BACHELOR IN SURGERY.—Charles Adams, John Tate Creery, John Loftus Cuppaidge, Charles H. Dixon, Archibald Alex. Hamilton, John Seymour Kane, William Henry Line, Thomas Robt. Lingard, Thomas John Rashleigh Lucas, Edward Erskine Moore, Alexander Baillie M'Kee, Robert James Polden, Chas. Saunderson Purdon.

LICENTIATE IN SURGERY.—Brazier Creagh, George Washington.

BACHELOR IN MEDICINE.—Charles Adams, Richard John Baker, John Patrick Barry, Henry Ludovic Clare, John Tate Creery, John Loftus Cuppaidge, Wm. Spear Gordon, Archibald Alex. Hamilton, Fitzgerald Isdell, William Henry Line, Thomas Robert Lingard, Alexander Baillie M'Kee, Robert James Polden, Chas. Saunderson Purdon.

DOCTOR IN MEDICINE.—Travers Barton, Ludovic Jones, John Seymour Kane, Gilbert Lynch, Charles Grove Young.

QUEEN'S UNIVERSITY IN IRELAND.—At a meeting of the University on the 21st ult., the following degrees and diplomas were conferred by the Vice-Chancellor:—

DOCTOR IN MEDICINE.—John Howard Battye, George, J. Coates, John J. Dinnis, Arthur Hickman, Edward Horan, Daniel Lehane, William J. Matthews, William T. Mullally, Patrick Mullane, James Mullin, John F. L. Mullin, M. W. O'Keefe, Samuel Townsend.

MASTER IN SURGERY.—George J. Coates, John J. Dinnis, Charles Hall, John Hosford, Charles Frederick Knight, John Martin, Patrick Mullane, M. W. O'Keefe, William Smyth, William Stokes, Samuel Townsend, John Wilson, Ralph Worrall.

DIPLOMA IN MIDWIFERY.—George J. Coates, Patrick Mullane, William Stokes, M. W. O'Keefe.

DR. C. H. ROBINSON has been elected a Member of the College of Physicians in Ireland.

MEDICAL MAGISTRATES.—John Turner, F.R.C.S. Eng., has been appointed a Justice of the Peace for the borough of Wycombe.—Samuel Musgrave, F.R.C.S. Edin., factory surgeon and medical officer to the Lisburn Union Hospital, has been appointed to the Commission of the Peace for the Counties of Antrim and Down.

STATISTICAL SOCIETY OF IRELAND.—Dr. Mapother has been selected by this Society as its president, an office formerly held, amongst others, by Archbishop Whately, Judge Longfield, and Lord O'Hagan.

"A LIBERAL GIFT."—Under this heading the *Times* of the 6th inst. had the following suggestive notification:—"A roll of bank-notes, value £500, was dropped into the offertory bag at St. Mary's Church, Chelmsford, on Sunday afternoon, for the benefit of the Chelmsford Infirmary."

THE execution of James Sweetland is fixed for the 26th inst., at Newgate. The convict, on receiving an intimation to this effect, was very much distressed, and expressed a wish to see his wife and child and other relatives. Meanwhile a memorial is being prepared by Mr. Ricketts, his solicitor, praying her Majesty to commute the sentence.

MEDICAL SCHOOL OF ROYAL COLLEGE OF SURGEONS IN IRELAND.—On last Monday the prizes obtained during the past Session were awarded as follows:—First year: Austin Cooper, first; Mayer Dutch, second. Second year: M. T. Yarr, first; T. W. Elsner, second. Third year: Humphrey Broomfield, first; Richard Callan, second. Mr. Broomfield, who was first in the third year's course, won the Gold Medal and £15.

THE LATE SURGEON-MAJOR SHEPPERD, A.M.D.—A handsome memorial brass, supported on a slab of black marble, has just been erected in the chapel of the Royal Victoria Hospital at Netley, to the memory of the late Surgeon-Major Shepperd, of the Army Medical Department. The brass bears the following inscription:—"In memory of Peter Shepperd, M.B. University of Aberdeen, Surgeon-Major Her Majesty's Army, born at Leochel Cushnie, Aberdeenshire, 25th August, 1841, who sacrificed his own life at the battle of Isandhlwane, Zululand, 22nd January, 1879, in the endeavour to save the life of a wounded comrade. Erected by his brother officers and friends."

THE GLOBE says: "A Memorial, signed by upwards of eight hundred persons, among whom are the Master of the Rolls, Sir Henry Thompson, Dr. Risdon Bennett (President of the Royal College of Physicians), Mr. Darwin, Professor Huxley, Dr. W. B. Carpenter, the Presidents of the Congregational and Baptist Unions, and the Dissenting Deputies, and the Professors of most of the Nonconformist Colleges, has been presented to Mr. Gladstone, asking for the support of the Government to the motion of Mr. Roundell in favour of the complete abolition of the clerical Headships and Fellowships at Oxford and Cambridge, and, on the amendment of Mr. Bryce, for throwing open the Professorships of Hebrew and Ecclesiastical History."

BEQUESTS ETC. TO MEDICAL CHARITIES.—The Mercers' Company have given one hundred guineas to University College Hospital. Mr. E. Hill has given fifty guineas to the Sussex County Hospital, Brighton. H.R.H. the Duke of Edinburgh has given £20 to the Charing-cross Hospital.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

BENNETT, W. H., F.R.C.S.E., has been appointed Assistant-Surgeon to St. George's Hospital, vice G. C. Stirling, resigned.

BROWN, Mr. J. M., of the University of Edinburgh, has been appointed Demonstrator of Anatomy in the Owens College, Manchester, vice Mr. H. S. Branfoot, resigned.

BRYAN, C. F., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Workhouse of the Leicester Union.

BURTON, J. E., M.R.C.S.E., L.R.C.P.L., L.F.P.S.G., & L.M., has been appointed an Honorary Medical Officer to the Liverpool Ladies' Charity and Lying-in Hospital, vice Dr. J. H. Wilson, appointed Honorary Consulting Medical Officer.

DICKINSON, Mr. T. V., has been appointed House-Physician to St. George's Hospital, vice Mr. H. T. Griffiths.

FISHER, Mr. F. C., has been appointed House-Surgeon to St. George's Hospital, vice Mr. E. A. Hunt.

GLAISTER, J., M.B., C.M., has been appointed a Resident Medical Officer to the Leeds Public Dispensary, vice Todd, resigned.

HOLLAND, J. C., L.K.Q.C.P.I., has been appointed Medical Officer to the Dungarvan Workhouse, vice Hunt, resigned.

HOLMES, D., M.B., L.R.C.S.E., has been appointed Medical Officer to the Aston Branch of the General Dispensary, Birmingham, vice F. C. P. Howes, resigned.

HOYLE, W. E., M.R.C.S.E., has been appointed House-Surgeon to the Whitehaven and West Cumberland Infirmary and Fever Hospital.

INNES, H. D., M.R.C.S.E., has been appointed Junior House-Surgeon to the Huddersfield Infirmary.

KENNY, M. A., L.R.C.P.Ed., has been appointed Medical Officer to the Selby District and Workhouse of the Selby Union, vice Gray.

LEACH, J. C., M.R.C.S.E., B.Sc., S.Sc.C.Camb., has been reappointed Medical Officer of Health to the Sturminster Rural Sanitary Authority for three years.

LEWIS, C. J., M.R.C.S.E., L.R.C.P.L., has been appointed Resident Surgeon at the General Dispensary, Birmingham, vice J. H. Palmer, resigned.

MILLER, H., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the Hartland District of the Bideford Union.

MONTEITH, J. M., M.B., C.M., has been appointed Medical Officer to the Fourth District of the Bellingham Union.

RYERSON, G. S., M.D., has been appointed Ophthalmic and Aural Surgeon to the General Hospital, Toronto, Canada.

SHAPLEY, F., M.R.C.S.E., L.S.A.L., has been appointed Assistant Medical Officer to the Wonford House Hospital for the Insane, Exeter.

SUNDERLAND, W., L.R.C.P.Ed., M.R.C.S.E., has been appointed Medical Officer to the First District of the Saffron Walden Union.

TAYLOR, F., M.R.C.S.E., L.S.A.L., has been appointed House-Surgeon to the Teignmouth, Dawlish, and Newton Infirmary, vice G. Coutts, M.B., resigned.

WALFORD, E., M.R.C.S.E., has been appointed Medical Officer of Health for the Urban Sanitary District of Ramsgate, at a salary of £150 per annum, vice J. W. Barry, resigned.

WESTMORLAND, Mr. J., has been appointed Certifying Surgeon for Factories for the Collyhurst, Harpurhey, and Blackley Districts, Manchester, vice J. B. Pinder, resigned.

Births, Marriages, and Deaths.

BIRTHS.

BROMLEY.—On the 27th ult., at Castle Hedingham, Essex, the wife of John Bourne Bromley, M.R.C.S.E., of a daughter.

CORBAN.—On the 1st inst., at Sunnyside House, Gibraltar, the wife of Surgeon-Major Laurence Corban, M.D., of a son.

DAVIES.—On the 26th ult., at High-street, Newport, Mon., the wife of George A. Davies, L.R.C.P.I., of a son.

EVANS.—On the 5th inst., at Sutton Coldfield, the wife of Alfred H. Evans, M.R.C.S.E., of a daughter.

FERGUSSON.—On the 28th ult., at Claremont-square, N., the wife of W. E. L. Fergusson, M.D., of a son (posthumous).

FRODSHAM.—On the 3rd inst., at Denham House, Upper Streatham, the wife of John Mill Frodsham, M.D., of a son.

HENSMAN.—On the 26th ult., at Park-street, Taunton, the wife of William Hensman, Brigade-Surgeon, A.M.D., of a son.

HORNER.—On the 28th ult., at The Gables, Tonbridge, the wife of Arthur Clayton Horner, M.R.C.S.E., of a daughter.

SMITH.—On the 27th ult., at Howard Lodge, Hurstpierpoint, Sussex, the wife of G. J. Malcolm Smith, M.B., of a daughter.

WELCH.—On the 2nd inst., at Victoria-park-road, the wife of Samuel Welch, M.R.C.S.E., of a son.

MARRIAGES.

HERAPATH—LANE.—On the 24th ult., at St. Mary's, Tyndall's-park, Clifton, by the Rev. W. F. Bryant, M.A., assisted by the Rev. J. Kerry, Chas. Kynaston Herapath, Surgeon, of 11, Brunswick-square, Bristol, only son of the late W. B. Herapath, M.D., F.R.S., to Emily Kate, only daughter of Frederick Lane, Esq., of Lawrenny, Leigh-road, Clifton.

LAWRENCE—HERVEY.—On the 1st inst., at St. Mary's, Hadlow, by the Rev. P. Howard Mompesson, Vicar, Henry Major Lawrence, Esq., L.R.C.P., L.R.C.S., to Emily Alice Hervey, daughter of the late Mathew Hervey, Esq., of Charnwood, Victoria.

ROUGHTON—ROBINSON.—On the 1st inst., at the Parish Church, Streatham, by the Rev. T. T. Griffith, Rector of Teale, assisted by the Rev. W. C. Roughton, Vicar of Great Harrowden, Northamptonshire, and the Rev. J. R. Nicholl, Rector of Streatham, James Wooley Roughton, M.R.C.S.E., L.R.C.P., of Streatham-common, third son of James John Roughton, Esq., of Kettering, to Frances Mary, eldest daughter of Augustus A. Robinson, Esq., of Greta House, Streatham.

DEATHS.

BENNETT.—On the 2nd inst., at Hornsey, Middlesex, Charles Frederick Bennett, M.D., late of Lymm, Cheshire, aged 55.

DOVE.—On the 5th inst., at Stowmarket, Suffolk, Harry Dove, M.R.C.S.E. & L.S.A.L., only son of the late Dr. Dove, of Norwich, aged 30.

ELLIOTT.—On the 30th ult., at Bury Grange, Gosport, John Elliott, Deputy Inspector-General of Hospitals and Fleets, late of Corbe, Cloghar, co. Tyrone.

PALGRAVE.—On the 2nd inst., at Kilburn, John Henry Palgrave, Retired Surgeon, Bengal Army, aged 78.

SMITH.—On the 2nd inst., at 5, Newton-terrace, Glasgow, Mary Baird, wife of A. Wood Smith, M.D., of the Glasgow Royal Infirmary School of Medicine.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, July 8th, 1880.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
July 2	29·85	S.W.	62	56	104	70	50	0·50	Cloudy
,, 3	29·71	S.W.	63	57	105	69	55	0·20	Cloudy
,, 4	29·74	S.W.	62	59	93	66	54	0·17	Raining
,, 5	30·20	N.W.	60	53	111	74	49	..	Fine
,, 6	30·05	W.	62	57	93	72	53	..	Overcast
,, 7	29·75	S.W.	59	57	74	66	55	..	Overcast
,, 8	29·62	W.	62	55	112	71	52	0·06	Cloudy

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Local papers containing reports or news-paragraphs should be marked.

We cannot prescribe, or recommend practitioners.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

A COUNTY COURT JUDGE ON MEDICAL CERTIFICATES.

AT the Lewes County Court, according to the *East Sussex News*, the Judge, A Martineau, Esq., thought fit to deliver himself as follows on the value of medical certificates of inability to be present on the part of important witnesses:—"I am sorry to say doctors are most unscrupulous in granting medical certificates. Therefore I place little dependence on these certificates. Anybody seems to be able to get one when one is desirable for convenience sake." This is a most unusual and unwarrantable remark. Proceeding from a Judge in his chair of judgment, and made in the absence of the medical man who had certified it, was, besides being unjust, mean and ungenerous. We shall not insult the medical profession by replying to it. We can afford to rest in the respect of the public, and may refer the Judge for public opinion on his estimate of medical men and their certificates to the excellent article in the *East Sussex News* of June 18th on his libellous words.

Verb. Sat. Sap.—Our correspondent is thanked for his letter; but as the subject has so recently been fully discussed, we think it would be advisable to wait until the operation of the G.O. is more apparent before again taking it up.

Mr. John C. Stanley.—It is not "Cayenne turpentine," but Chian turpentine.

THE DUBLIN DEATH-RATE.

To the Editor of THE LANCET.

SIR,—I notice in your columns that the death-rate in Dublin still continues to be very high—some 40 per 1000 inhabitants per annum. I have also noticed that a great deal of blame has been cast upon the public officials and the medical authorities of Dublin for this sad state of matters.

It seems to me to be very unfair to saddle either of these bodies with a mortality which, as I read it, they have but little to do with. My impression is that the real cause of the overcrowding, fever, and unhealthy condition of Dublin at this moment resides in the extreme poverty—nay, destitution—of some parts of Ireland. Those who, like myself, chanced to see Ireland in 1848 will understand how powerless all hygienic remedies are when poverty is widespread.

I read in a journal the other day that the cost of the food of an in-door pauper in one of the Irish unions was but 2*d.* a day. When we hear of such misery *within*, what must be the misery *without* the workhouses? I have offered these few words in order to show that there is but little use of scolding medical men or town councils in Ireland at this moment. The question lies deeper than that; but it is soluble.

I am, Sir, your obedient servant,

CHARLES R. DRYSDALE, M.D., &c.

Woburn-place, June 29th, 1880.

A Surgeon-Major, I.M.D.—We do not agree with our correspondent on the question of promotion by selection to the administrative ranks. We believe it to be essential to efficiency. The other point in his letter we have discussed elsewhere. We regret that we cannot find space for his communication.

Mr. Dolan's paper has been submitted to our commissioners.

New-comer.—There is no absolute rule. Custom varies. On the whole, in the country the rule seems to be for the new-comer to call on his medical neighbours. If the patient of another medical man, actually under the medical attendance at the time, seeks the advice of "New-comer," our correspondent should decline to take the case, except on the understanding that intimation is made to the former adviser. It is scarcely his duty in fresh cases of illness to go into the antecedents of his patients, always provided that he encourages patients to continue faithful and respectful to their existing professional connexions in the absence of good reasons to the contrary.

Mr. J. G. Braden is thanked for his communication, on which he will see our comment to-day. The best punishment for so unjust a Judge is to publish his words, and to leave him and them to public censure. Such Judges will not hurt the medical profession.

W. M. N. — Hay and Son, Little Queen-street, Lincoln's-inn-fields; F. Kidston, Duke-street, Union-street, Bishopsgate.

REGISTRATION OF DISEASES IN HOSPITALS.

To the Editor of THE LANCET.

SIR,—I trust that Mr. Howlett's letter on the subject of the Registration of Disease in Hospitals will receive the attention it deserves from those to whom it is addressed—the medical and surgical registrars of London; and that, amongst other good results, it may lead to the fuller recognition of much laborious service which is at present somewhat undervalued.

When it is considered how ample is the material with which these officers have to deal, their position of absolute impartiality and special opportunities of observation, it would almost seem as though it rested with them personally to fulfil one of the main ends for which hospitals exist. The value of the registrars' work is, indeed, so fully recognised, that it would be easy to mention by name those hospitals in London which are distinguished for the completeness and extent of their "post-mortem and case books," as well as those that show but poorly in this respect with records so variously and irregularly kept as to be practically useless.

The systems of registration and nomenclature at present in vogue, although various enough to be confusing, are not so different, as I believe, as to make it impossible to arrive at a common agreement. Such a committee as Mr. Howlett suggests, besides accomplishing this, would give a new vitality and impulse to a department of hospital work which at present is hardly appreciated. But, besides this, an annual conference of medical and surgical registrars would assist in directing and limiting a labour that is often spoken of as being too wide and miscellaneous. Some common method and motive of work might be resolved upon prospectively from year to year; the observation, I mean, during that period, of some particular subject of clinical interest in especial. Is it too much to say that the authority of records so collected, where there is no hypothesis to uphold and no personal element to satisfy, would be greater than that of any individual collector, however candid and honest?

As a specimen of what may be done in this way, I may refer (with the satisfaction as well as the shame of one who occupied the same post less worthily years ago) to the medical report of Dr. Owen published in the last volume of the St. George's Hospital Reports. Contrast with this the tabular statement which some hospitals append to the annual report to their subscribers, and which, while it is expensive to print and troublesome to construct, hardly fulfils its poor purpose of making a show before the public.

I sincerely hope that the physicians and surgeons engaged in this important work in London will respond to Mr. Howlett's appeal, waiting for no patronage and admitting no interference.

Your obedient servant,

Wimpole-street, July, 1880. OCTAVIUS STURGES.

IN the Annual Report of the Stockwell Orphanage, the medical officer states that "consumption has never been introduced into the Jewish community." The statement is not borne out by many well-ascertained facts. There is no immunity from phthisis among the Jewish nation. We are not aware of any writings on the subject.

Dr. Whiteside Hime.—Although we are by no means disposed to exaggerate the importance of the Bill, we think that every effort made in the direction our correspondent suggests would be advisable.

W. A.—The practice was probably sold subject to our correspondent's undertaking, so that it would be a breach of good faith.

ADMINISTRATION OF NITROUS OXIDE GAS.

To the Editor of THE LANCET.

SIR,—With regard to the "new instrument for the better administration of nitrous oxide gas," as recommended by Mr. Donald Napier in your impression of June 26th, may I submit that I have for a very long time used the two cylinders in a form that may be more convenient to some of your readers. The cylinders are in tripod stands that close to the bottles when not in use, the tube connecting them being a Y-shaped india-rubber tube. The advantages to myself are: portability; disconnexion; the being able to use a twenty-five gallon cylinder in place of a fifty; Clover's foot-key (much better to regulate than the hand-key); takes up less room; is light to carry, besides being firmer and lower to foot-key.

Yours very truly,

Brook-street, June 30th, 1880. TOM BIRD.

EXAMINATIONS AT THE ROYAL COLLEGE OF SURGEONS.

AT the Primary Examination for the diploma of Membership of the above College, which is now going on, there are nearly 200 candidates, to whom the following questions on Anatomy were submitted at the written examination on the 2nd instant, when they were required to answer only four out of the six questions:—

1. Describe the first dorsal vertebra and its articulations.
2. Describe the external oblique muscle of the abdomen and its aponeurosis. Give their attachments and relations.
3. Describe the male urethra.
4. Give the dissection necessary to expose the deep plantar arch, describing the parts seen in succession.
5. Give the course, relations, and distribution of the ulnar nerve below the elbow.
6. Name the arteries distributed to the brain. Give the course and anastomoses of each.

The following were the questions on Physiology:—

1. What are the proximate constituents of wheat flour; what changes do these constituents undergo in the conversion of flour into bread, and how is their digestibility affected by these changes?
2. Describe the action of the heart, and give the evidence that the blood circulates through the vessels.
3. How is the nervous system concerned in tranquil respiration? What are the phenomena presented by the nervous and vascular systems in death by asphyxia?
4. What varieties of cartilage are found in the adult, and in what situations? Describe the structure and uses of each variety.
5. Explain what is meant by the following terms:—Cell, tissue, organ, organism, organic and inorganic matter, proteid, peptone, ferment, carbo-hydrate, hydrocarbon. Give examples of each.
6. Give the structure of the epithelium and papillæ of the tongue. By what nerves is the tongue innervated, and what are their functions?

H. G. S.—Niemeyer's Medicine, Bryant's Surgery, Ringer's Therapeutics, Meadows' Midwifery, Guy's Medical Jurisprudence, and Wilson's Hygiene may be recommended.

Perplexed.—No.

"EXTRACTING TEETH AND PUTTING THEM BACK INTO THE JAW."

To the Editor of THE LANCET.

SIR,—I have been following the discussion, originated by you, on the extraction and replacement of teeth with much interested anticipation; but I must say that up to the present time the thing which has appeared to me the most remarkable has been the small amount of light thrown upon the subject by our dental brethren. It is needless to say that such a question can only be settled by the production of facts; but if settled in the affirmative, as I believe it will, one or two other inquiries of a like nature would suggest themselves as also worthy of solution. For instance, can the teeth pulled out of one person be replaced successfully by those pulled out of another? Also, can they be replaced by those of any other animal? I regret that I can supply you with no facts of my own; but many years ago I was consulted by a sailor of large and varied nautical experience, and he told me that on one of his voyages the men were attacked by scurvy, which was so severe that it caused all the teeth of one man to become loose, and, said he, "Would you believe it, Sir, he pulled a lot of his teeth out, scraped them, and put them back again, and they grew as firm and useful as ever." I should judge him to have been a veracious person.

Subsequently I questioned closely another old salt, and he declared most positively that he had known the same thing done in scurvy, and that it was by no means uncommon.

My assistant, Mr. George Billing, assures me that when he was with Dr. Segar, of Southport, he four times saw the doctor resort to this proceeding, and he remembers only one instance in which it was not successful.

I am fully aware that these somewhat apocryphal instances by no means come up to the standard of modern scientific evidence; but perhaps they may act as a stimulus to those who are in possession of better facts to forward them to you.

Yours obediently,

Blackpool, June 28th, 1880. WM. HARDMAN.

To the Editor of THE LANCET.

SIR,—The following case may be of interest to those of your readers who are watching the correspondence appearing in your valuable journal on the above subject:—

On the 10th of June, 1875, I was called to E. P——, a lad about fifteen years of age, who, half an hour before I saw him, had been kicked by a horse. Besides a severe cut over the left upper lip, extending to the cheek, I found the left upper canine tooth had been broken off, and the first bicuspid on the same side knocked entirely out of its socket. The latter tooth was found, and, after wiping, I put it back into its place, fixing it to the second bicuspid with a bit of silver suture wire. A fortnight later I removed the wire, and found the tooth quite firm. About a year after the accident I saw the boy for the last time; the tooth was as firm as ever. A day or two since I wrote to the boy's mother, and I have this morning received her reply, in which she states the tooth "has answered as well as if it had never been knocked out."

I am, Sir, yours truly,

Bridgwater, June 16th, 1880. J. BAIN SINCOCK.

Fellow Med. Chir. Soc.—It has not often happened. In 1815, Mr. Henry Cline, President of the College of Surgeons, was at the same time President of the Medico-Chirurgical Society, and Sir James Paget did the double duty in 1875; and now Mr. Erichsen, F.R.S., who so worthily fills the chair at the Society, has just been elected President of the College.

F. N. T. — Write to the Secretary of the Local Government Board (Ireland).

STIMULANTS AT THE BRISTOL WORKHOUSE.

A CORRESPONDENT writes as follows:—

"The remarks of Lord Carnarvon in the House of Lords on the use of stimulants in workhouses—and which, like too many remarks in Parliament, were very indistinctly heard in the reporters' gallery—have called forth an investigation by the guardians of the Bristol Workhouse. Of seven workhouses brought into comparison, the Bristol Workhouse is one of the cheapest from which returns have been received. The cost per head is lowest in Bristol, being 5*s.* 3*d.* against 4*s.* 9*d.* at Nottingham. As to the cost of milk and the percentage of sick, Bristol was half way down in the same list, and second as to quantity of wines, spirits, and beer consumed. The Committee, whose report was unanimously adopted by the Board, recommended 'That all beer and other stimulants ordered for the paupers who act as nurses, or are employed in any unpleasant work, be supplied to them with their meals, and that the paupers be not permitted to take any part of their allowances out of the dining-room; also that the stimulants ordered for the sick paupers be administered by a paid responsible officer, unless directions to the contrary be given by the medical officer, and that once a quarter at least the medical officer do specially reconsider every case in which stimulants may be in course of administration.' The vindication of the Board is pretty complete. There is one element, however, in all these rivalries in economy in workhouses that should never be lost sight of—viz., the health and longevity of the paupers upon whom the experiments are made. It is possible to reduce even to mere water the diet; but if this is accompanied with diminished strength and lowered vitality, it is little creditable. There is much to be said for only the most careful administration of beer and stimulants to paupers under the responsibility of the medical man; but what is saved in this way should be spent in the general improvement of the pauper's diet, which is certainly not excessive."

HOT-AIR BATHS.

To the Editor of THE LANCET.

SIR,—In your impression of June 5th you refer to the subject of ventilating Turkish baths and the difficulty of obtaining pure air, more particularly, I apprehend, in the hot-air chambers. Now, I venture to state that it is quite practicable to ventilate Turkish baths so effectually that not only shall the impurity of the air be inappreciable in the slightest degree, but that the air shall be rendered absolutely pure.

Having given considerable attention to the subject of hot-air baths, and as architect of one of the best-appointed, and I may say one of the most favoured Turkish baths in the metropolis, I beg to be allowed to describe the system of ventilation adopted, more particularly in order that the public may know that there are Turkish baths in London which may be visited without the slightest possible chance of any danger such as you have referred to.

In all cases purified air should be taken into the bath as well as the impure air extracted therefrom. In the case of the Turkish baths at Camden-town, the air is brought to the stove and hot-air chambers from an external vertical shaft by means of a channel communicating with the heating stove, up which it rises and passes in a highly heated state through a grating in the floor above, to the "laconicum," or No. 3 hot room. It then distributes itself, after filling the "laconicum," to the adjoining chambers through the door openings, and by means of other channels it passes underneath the stove into the spaces under the marble benches, and enters the hot-air rooms through sliding gratings at a temperature of 100°. The impurities in the air which fall towards the floor are carried off by means of flues underneath the floor-tiles, all concentrating to a common upright shaft in an adjoining compartment to the smoke-shaft, and which is necessarily highly heated, and the exhausted air passes out through an extractor at the top of the smoke-shaft. Whatever may be left is carried off through specially constructed gas suspenders, together with the gas combustion, into channels in the floor above; these again concentrate, and are attached to another heated upright shaft. Besides the flues mentioned, there is a stained glass ceiling light at a height of twelve feet, openable, and through an outer light it communicates direct with the external air; but it has never yet been found necessary to open this light for the purpose of ventilation. Although a bather on an average of twice weekly since these baths were opened in 1878, I have never yet heard a complaint of impurity of the air; in fact, the air in consequence is seldom less than 140°, 160°, and 220° respectively, something above the customary temperature, yet without the slightest discomfort; indeed I have thoroughly enjoyed a quarter of an hour in the "laconicum" at 220°.

An ill-ventilated bath is self-detecting. It generally produces *ennui*; hence the frequent complaint of this feeling by bathers, even though there may be no unpleasant smell, but I have visited baths where the latter has been intolerable to an educated nose. I therefore consider your admonitions in this respect most salutory, although habitual bathers will soon find out and relinquish baths where their safety is not regarded. Your observations, too, with reference to the attendance is warranted; for one regrets to have to confess that in establishments where this would be least likely to be expected, and where, doubtless, the proprietors pride themselves on the appellation of the Turkish baths, this is noticeable in a marked manner. The apathy and indifference to the comfort of bathers, with not half a shampoo, and so little water, and one's freedom and wants curtailed to the last degree, leave a lasting impression; but the faculty will, doubtless, take care to send their patients where they know proper attention will be paid both to their patients and to their instructions, and where the bath can be enjoyed with some freedom from restraint.

I would add, it is most desirable—imperative even, so far as healthiness is concerned—that Turkish baths should not be "adapted buildings" from some private house or shop, but should be built for the purpose, and constructed with proper materials, such as concrete and tiled floors, concrete and plastered ceilings, and brick walls. Timber floors and partitions in old buildings often emit unpleasant smells, especially when heated, and it is impossible to keep the rooms *sweet*. Any felting or curtains in the hot rooms should be frequently renewed, and all the chambers kept scrupulously clean. Bathers are most sensitive in these respects.

Yours obediently,
London, June 15th, 1880. H. H. BRIDGMAN, A.R.I.B.A.

To the Editor of THE LANCET.

SIR,—In a short article with the above heading in your issue of June 5th, the writer says: "If the air of a Turkish bath is laden with germs of disease thrown off from the lungs of a fever or a consumptive patient, there are no currents to carry the particles away. It is a physical certainty that others breathing in the bath must inhale them. This is an evident source of peril, and suggests the wisdom of taking measures to insure the frequent changing of an atmosphere which may be thus easily polluted." When the Turkish bath was first introduced into this country, the hot rooms were heated mostly with smoke flues traversing under the floor, and there was no ventilation, certainly no constant change of air. There may be a few baths still so heated; but at the present time there is no difficulty in steadily maintaining the necessary high temperature in the hot-rooms, with a constant change of air equal to thirty cubic feet per minute for each bather, which is more than is insisted upon in the best hospital. Having been interested in the Turkish bath for many years, I have all along been impressed with the importance of thorough ventilation in the hot-rooms, and to that end have made numerous experiments, which have eventually resulted in the production of the convoluted stove, which, owing to its large radiating surface and small grate space, produces an immense volume of moderately warmed air, without the possibility of over-heating; and the air being drawn directly from the outside, the supply of fresh air is constant. Most of the baths in this country are heated by the apparatus named, and ventilated in the manner indicated. In towns or crowded places the air may be filtered in various ways before entering the heating chamber surrounding the apparatus. I may state briefly that by this mode of heating the superficial area of the outlets for vitiated air may be the same, within a fraction, as the fine by which the fresh warm air enters, and there being no valves used, an uninterrupted change of atmosphere is insured.

I am, Sir, yours &c.,
Manchester, June 16th, 1880. JOSEPH CONSTANTINE.

SOCIÉTÉ FRANÇAISE D'HYGIÈNE.

"LE CONCOURS. — *Hygiène et Éducation physique de la seconde enfance. La salle d'asile modèle*, est prorogé au 1er janvier 1881 et modifié de la façon suivante:—*1re question:* Hygiène de la seconde enfance jusqu'à l'âge scolaire, c'est-à-dire de 2 à 6 ans, embrassant tout ce qui concerne l'hygiène proprement dite, y compris le développement normal des organes des sens, mais sans toucher à la pédagogie infantile. *2e question:* Hygiène et pédagogie des salles d'asile modèles. La partie hygiénique se rapportera exclusivement au milieu spécial de la salle d'asile. La partie pédagogique aura exclusivement pour objet le développement harmonique du corps et de l'intelligence. *Dispositions et formalités générales:* Les deux questions précédentes constituent deux concours bien distincts, et récompensés chacun par une médaille d'or, une médaille d'argent et trois médailles de bronze. Les mémoires écrits en Français, Anglais, Italien ou Allemand devront être adressés, *sous la forme académique*, au siège de la Société française d'hygiène, rue du Dragon, numéro 20, avant le 1er janvier 1881. Les auteurs qui se seront fait connaître, soit directement, soit indirectement, seront exclus du Concours. L'étendue des mémoires ne devra pas dépasser 30 pages d'impression in-12. Les mémoires couronnés appartiendront à la Société qui pourra les imprimer, en totalité ou en partie; elle s'engage toutefois à inscrire le nom des Lauréats en tête de l'opuscule qui sera répandu autant que possible."

UNQUALIFIED MEDICAL OFFICERS TO PUBLIC INSTITUTIONS.

To the Editor of THE LANCET.

SIR,—I notice in the reply to "J. D.," in your issue of the 26th ult., that you state the following: "Every public hospital is bound to employ qualified officers for its medical service." Would you or any of your readers kindly inform me of what material the ligature is composed, as I am ignorant of any stronger tie than that of professional opinion? I regret to say that it is a practice by no means uncommon to appoint unqualified men as house-surgeons to provincial hospitals, to the detriment of the officers themselves, their hospitals and patients, and the medical profession at large.

I am, Sir, faithfully yours,
Mare-street, Hackney, July, 1880. SAMUEL WILSON.

"BONE-SETTING."

To the Editor of THE LANCET.

SIR,—In your impression of May 8th Dr. Monckton calls the attention of the profession to the treatment of stiff joints. The following cases, which have recently occurred in my own practice, I deem worthy of bringing under your notice:—

A patient aged fifty had a subglenoid dislocation of the humerus. I reduced it easily, bandaged the arm to the side, and enjoined rest. Three weeks after the lesion occurred he was unable to abduct his arm in the slightest degree, and, as I naturally felt very anxious about the case, I took him to London, and had the advice of a surgeon of eminence, who at once pronounced the case to be one of "muscular adhesion," placed my patient under gas, and forcibly put the joint through its various motions, assuring both myself and my patient that free motion of the shoulder-joint would *immediately* ensue. It has not done so, however; and now, after six weeks' interval, the latter is unable to raise his arm, or even to write; he has a hard lump between the long and short heads of the biceps, and also between the insertion of that muscle and the brachialis anticus.

A school-boy fell with his arm elevated, and several boys fell upon him, causing dislocation (downwards and backwards) of the humerus. There was great displacement of the parts, but I effected reduction easily and satisfactorily. I afterwards put the arm in a sling, and told the boy to raise the limb right up every other hour during the day. He did so, and in a week's time the use of his arm had returned almost as well as ever, and there was comparative absence of pain.

A woman aged thirty, whose sister and two brothers all suffer from flexed knee-joints, the result of arthritic disease, sent for me complaining of severe pains in the knee-joints. On examination, I found her suffering from synovitis with slight effusion. In three days both her knees were flexed, in spite of every effort made to the contrary, and she was unable to extend them. The deformity of the other members of her family already mentioned being prominently under my notice, I determined that at all risks she should not suffer as they had done. I therefore placed her well under chloroform, and forcibly extended both legs, bandaged them together, and fixed a five-pound weight working upon two pulleys upon them, which made direct traction in the long axis of her body, at the same time treating the synovitis *secundum artem*. In a fortnight she could walk without pain or any other synovitic symptom.

I am led to believe that the first case I write of was not one of a muscular but of a neurotic nature; that the second case was treated contrary to the treatment usually taught at our medical schools; and that the plan adopted in the third case is similar to that for which "bone-setters," and until recently "bone-setters" alone, gain such credit.

I remain, Sir, yours truly,

Poole, June, 1880. E. P. PHILPOTS, M.D.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Sturges; Mr. S. Gamgee, Birmingham; Mr. J. B. Cooke; Mr. H. C. Laurence; Dr. D. Powell, London; Dr. Allen Duke; Mrs. Baines; Dr. H. Davies, London; Dr. Ogle; Messrs. Sheehy and Son, London; Mr. Reckitt, Newark; Surgeon-Major Hamilton; Surgeon-General Irving, Edinburgh; Mr. F. Treves, London; Dr. Gouley, New York; Mr. Pearce, Manchester; Mr. Cartwright, Manchester; Mr. Garrard, Herefordshire; Mr. Stanley, London; Mr. Hardwicke, Sheffield; Mr. Rouse, New Zealand; Mr. Howell, London; Dr. White, London; Mr. Crowley, Sheffield; Mr. Gairdner, Crieff; Dr. Mapother, Dublin; Mr. Rachius, Boston, U.S.A.; Messrs. Bossert and Scholl, London; Mr. W. Smith, Redditch; Mr. Bennett, London; Mr. Lovison, Haverstock-hill; Mrs. Turner, Dover; Messrs. Richardson, Leicester; Mr. Westmorland; Mr. Bourns, Brompton; Dr. Chalmeley; Dr. Barrall, New York; Mr. Burbidge, Coventry; Dr. Laverick, Hinderwell; Mr. E. N. Smith; Dr. Harding, Whittlesea; Dr. Murray, Putney; Miss C. Holloway; Mr. Wilson, London; Dr. Robertson, Bayawater; Mr. Burton, Liverpool; Mr. Nicholson, Manchester; Mr. Walley, Bradford; Mr. Lownds, Surrey; Lady Buchanan; Surgeon-Major Sutherland; A Sufferer; A Constant Reader; Pregunta; F. M. T.; L. S.; Experimentum fit; W. A.; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Simms, London; Mr. Shrivell, Hadlow; Miss Carty, London; Mr. Knapp, Bristol; Rev. W. C. Arnold, Woking; Mr. Hammersley, Catford; Mr. Nicholson, Dublin; Mr. Norris, South Petherton; Mr. Nesbitt, Monaghan; Dr. Jones, Harlech; Mr. Davidson, Carlisle; Mr. Walker, Middlesborough; Mr. Jennings, Coleford; Surgeon-Major Roche, Agra; Mr. Harding, Westgate-on-Sea; Dr. Sutherland, Castletown; Dr. Smith, Glasgow; Messrs. Leader and Sons, Sheffield; Messrs. Evans and Wells, St. Neots; Mr. Robinson, Chesham; Mr. Hughes, Woolwich; Dr. Pearson, Cape Colony; Dr. Adamson, Fence Houses; Mr. Glaisyer, Brighton; Mr. Milne, Ladywell; Mr. Thomas, Newcastle; Mr. Warddell, Windsor; Messrs. Sharpe and Co., Birmingham; Mr. H. H. Bigg; C. H. B., Ledbury; C. V., Walsall; L.R.C.S.; R. W.; Medicus, Kempston; J. J., Glasgow; Alpha, Rotherham; Riece, Pendlebury; Beta, Pinchbeck; R. H., Nottingham; M. R. D.; A., Basingstoke; X.; D. Finsbury; G. J., Hartlepool; Æsculapius; W. O. B.; M. S.; W. H., Bradford; R. A. C.; W. S. G., Manchester; A. B.; K.; V., Kensington; M.D., Manchester; R.; M. W.; Delta, Huddersfield; A. B., Lifton; L. N.; H. N. O., Horsforth; Jacobus, Edinburgh; T.; &c.

Indian Daily News, Liverpool Daily Post, Manchester Guardian, Bristol Mercury, Herald and Weekly Free Press, Chelmsford Chronicle, Surrey Advertiser, North Cheshire Herald, Worcestershire Chronicle, Observer, Cambridge Chronicle, Wigan Observer, &c. &c., have been received.

Medical Diary for the ensuing Week.

Monday, July 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

Tuesday, July 13.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, July 14.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

Thursday, July 15.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.

Friday, July 16.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, July 17.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

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